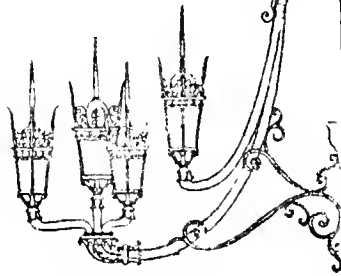


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THE MASSACHUSETTS COLLEGE OF PHARMACY & ALLIED HEALTH SCIENCES

FACILITIES MASTER PLAN

MAY 1993



BOSTON PUBLIC LIBRARY

Submitted To:

BOSTON REDEVELOPMENT AUTHORITY

1 City Hall Square
Boston, MA 02201

and

THE ZONING COMMISSION FOR THE CITY OF BOSTON

1 City Hall Square
Boston, MA 02201

Submitted By:

THE MASSACHUSETTS COLLEGE OF PHARMACY & ALLIED HEALTH SCIENCES

179 Longwood Avenue
Boston, MA 02115



HMM Associates, Inc.
A Summit Company

**The Massachusetts College of Pharmacy
and Allied Health Sciences**

**Facilities Master Plan
1993-2003**

May 1993

Submitted to:

Boston Redevelopment Authority

1 City Hall Square
Boston, MA 02201

and

The Zoning Commission for the City of Boston

1 City Hall Square
Boston, MA 02201

Submitted by:

**The Massachusetts College of Pharmacy
and Allied Health Sciences**

179 Longwood Avenue
Boston, MA 02115

EXECUTIVE SUMMARY

The Massachusetts College of Pharmacy and Allied Health Sciences ("the College") is a private, independent college, founded in 1823 and located at 179 Longwood Avenue in Boston's Longwood Medical Area (LMA). The College's main campus, the site of the Project (referred to in this Master Plan as the "Site" or the "Campus"), is bounded by Longwood Avenue, Palace Road, the Boston Latin School, and the Brigham and Women's Hospital, Inc.'s ("BWH") Longwood Medical Research Center (LMRC).

Existing Conditions

The College has approximately 1,325 full-time students and approximately 135 faculty and staff. Students come from 35 states and 24 countries, and the College tends to attract a slightly older, more mature, more serious type of student as freshman and transfer students. The College offers sixteen degree granting programs including bachelor degree and post-graduate programs in pharmacy and related health care fields.

The College owns a single parcel of land in the LMA, its Campus, which is approximately 90,147 square feet (2.0± acres). Three buildings are currently located on the Campus:

- *The White Building* - Constructed in 1917, the White Building has served as the primary academic facility for the College, housing classrooms, faculty offices, administration and student services. The White Building is approximately three stories in height and contains approximately 89,000 gross square feet as calculated for floor area ratio purposes (GSF/FAR).
- *The Newton Building* - Constructed in 1961, the Newton Building is approximately four stories in height and contains approximately 25,000 GSF/FAR. The Newton Building houses classrooms, laboratory space and faculty offices.
- *Garage/Office Building* - A one-story storage facility of approximately 1,000 GSF/FAR is located adjacent to the property line with the LMRC.

In addition to the above listed facilities, the College leases a residence hall, Loretto Hall, from Emmanuel College to provide dormitory space for approximately 200 students. The College does not own or provide any other housing for its students.

The College's Campus contains approximately 150 surface parking spaces.

Master Plan Rationale

Students in the Bachelor of Science in Pharmacy program follow an integrated didactic curriculum of general education and pharmaceutical sciences. The College's degree program is currently a 5-year program, which, in the final year includes three experiential education programs: an eight week clinical clerkship; a five week hospital pharmacy externship; and a five week community pharmacy externship. Students in the post-baccalaureate Doctor of Pharmacy program, all registered pharmacists, complete eleven months of clinical clerkship in the final year of their program. The College has several working relationships established with many of the institutions in the LMA, including Beth Israel Hospital, BWH, Children's Hospital Medical Center, and the Dana-Farber Cancer Institute. The combination of classroom and laboratory studies and experiential programs in conjunction with local hospitals and research facilities make the College's educational curriculum complete, comprehensive, and interactive with other health professionals. The location of the College and the interrelationship established between its staff and the staff of other institutions make for an ideal learning environment.

The College anticipates that within the next ten years the accreditation requirements for the pharmacy program will add an additional year of study to the curriculum. This new 6-year program will lead to the awarding of a Doctor of Pharmacy (Pharm.D.) degree. This concept in pharmacy training requires the pharmacists to work with patients and health professionals in order to design, implement and monitor drug therapy plans to improve a patient's quality of life. Accreditation standards will also mandate an increase in the experiential component of the curriculum, most of which is conducted in major teaching hospitals such as the BWH.

Lastly, the demographics of the student population demand that the College provide on-campus housing for a number of students. The current lease agreement for student housing with Emmanuel College expires in 1995. The College desires to assume a greater degree of control over the costs associated with housing a portion of its student population, and to provide housing in a location on its Campus.

The combination of educational needs of the students, an anticipated change in the accreditation standards, the need for more experiential training opportunities for students, and the College's desire to have greater control over the housing it offers students, requires physical changes to the College's Campus. This Master Plan, which sets forth the College's proposed development which is necessary in order to meet these needs (referred to herein as the "Master Plan Development" or the "Project"), is submitted for City and community review. A combination of funding sources makes this development possible, including: (i) the College's funds currently being used to pay for leased dormitory space at Emmanuel College; (ii) lease payments from a tenant of the Research Facility to be constructed as part of the Project, and (iii) a financing alternative that includes the Boston Industrial Development Finance Agency (BIDFA) and Massachusetts Industrial Finance Agency (MIFA).

Proposed Master Plan Development/The Project

Due to the constraints of the College's Campus, the development for the College set forth in this Master Plan is a single comprehensive Project. In order to meet the future educational needs, experiential training needs and housing needs of the College, the Master Plan proposes the following:

- *The White Building* - Construction of approximately 7,824 GSF/FAR of new occupiable space and the general renovation of the structure in order to bring the building up to code and provide for additional handicap access. The renovations to the White Building will be phased over time, based upon funding availability and academic schedule constraints.
- *The Newton Building* - Demolition of the structure.
- *The Garage/Office Building* - Demolition of the structure.
- *The New Building* - Construction of a new building of approximately 171,251 GSF/FAR behind the existing White Building. The New Building will be approximately eight stories in height and contain the following uses:
 - Academic and student life facilities, including classrooms, faculty offices, teaching and research labs, cafeteria, and student lounge. These functions will comprise the first two floors of the New Building and will be approximately 43,902 GSF/FAR.

- Dormitory for approximately 175 to 180 students. The dormitory will be located on the eastern portion of the upper six floors of the New Building and will be approximately 40,882 GSF/FAR.
- Research facility to accommodate approximately 68,111 GSF/FAR will be located on the western portion of the upper six floors of the New Building, plus support laboratories located on the service level above the Garage. The service level area is approximately 18,356 GSF/FAR.
- Underground Garage will be constructed to house approximately 91 to 96 automobiles and serve as the partial replacement of approximately 100 surface parking spaces that will be lost due to construction.

Anticipated Benefits of the Master Plan

Because the College has not proposed any major changes to its Campus since 1961, the proposed Master Plan is a first attempt by the College to quantify and qualitatively analyze its long term needs. Moreover, the College is taking this opportunity to reinvigorate its participation with the community and be creative about the community benefits that it, as an institution, can provide the local community and the City of Boston. In addition to many of its current community activities, the College's Master Plan will institute several new programs, including:

- Mission Hill Rental Housing Data-base
- Community Scholarship Nominating Committee
- Student Mentoring Program
- Payment in-Lieu of Taxes (PILOT)
- Housing Linkage payment
- Jobs Linkage payment
- Union Construction jobs

Conclusion

The College has reviewed its educational and student needs for the next 10 years, and in that context proposes this Master Plan for growth. The growth of the College is directly linked with its ability to provide sufficient facilities for the accredited educational and training demands of the degree programs. During this review of the College's mission, needs and facilities, the College has also engaged in an interactive process of review with its abutters, community residents and the City.

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INTRODUCTION

This Master Plan sets forth the proposed development by the College through the year 2003. The location of the College's Campus is shown on Exhibit 1 - Site Locus Map. The development contemplated by this Master Plan, also referred to herein as the Project, will meet existing and anticipated space needs of the College during the next decade, thereby enabling it to meet its academic and programmatic goals. The sections contained within this Master Plan have been revised to address the BRA's Preliminary Adequacy Determination (PAD) dated May 21, 1993 on the Draft Master Plan (see Appendix A for PAD).

The Master Plan describes both new construction and renovation of existing facilities on the College's Campus. This development will allow the College to consolidate its residential, classroom and laboratory operations.

The Master Plan Development describes the construction of approximately 179,075 GSF for floor area ratio (FAR) purposes for new classrooms, faculty offices, laboratories and on-campus student housing. When completed, total GSF/FAR on-site will amount to approximately 268,032, which includes the New Building and the White Building. The density of the Site following construction of the New Building and renovations to the White Building will not exceed a FAR of 3.0.

The development described in the College's Master Plan, also referred to as the Project, will be beneficial and assure the longevity of an institution which has provided a number of public and community benefits to Mission Hill and Boston. It will also allow the College to maintain its strong ties to a number of LMA institutions which have contributed to the world-wide reputation of the LMA in medicine and health-care education.

The College supports efforts at a number of LMA institutions through its Clinical Clerkship Program. In the College's 1992/1993 program, almost 60 students were placed in internships at Beth Israel Hospital, BWH, Children's Hospital Medical Center, Dana-Farber Cancer Institute, New England Deaconess Hospital, and the Massachusetts Poison Information Center.

The College has countered the trend of declining enrollments experienced by many of Boston's educational institutions, and has shown modest increases in student enrollment during the past five years. In order to continue to be competitive, the College must insure its continued accreditation, and enhance

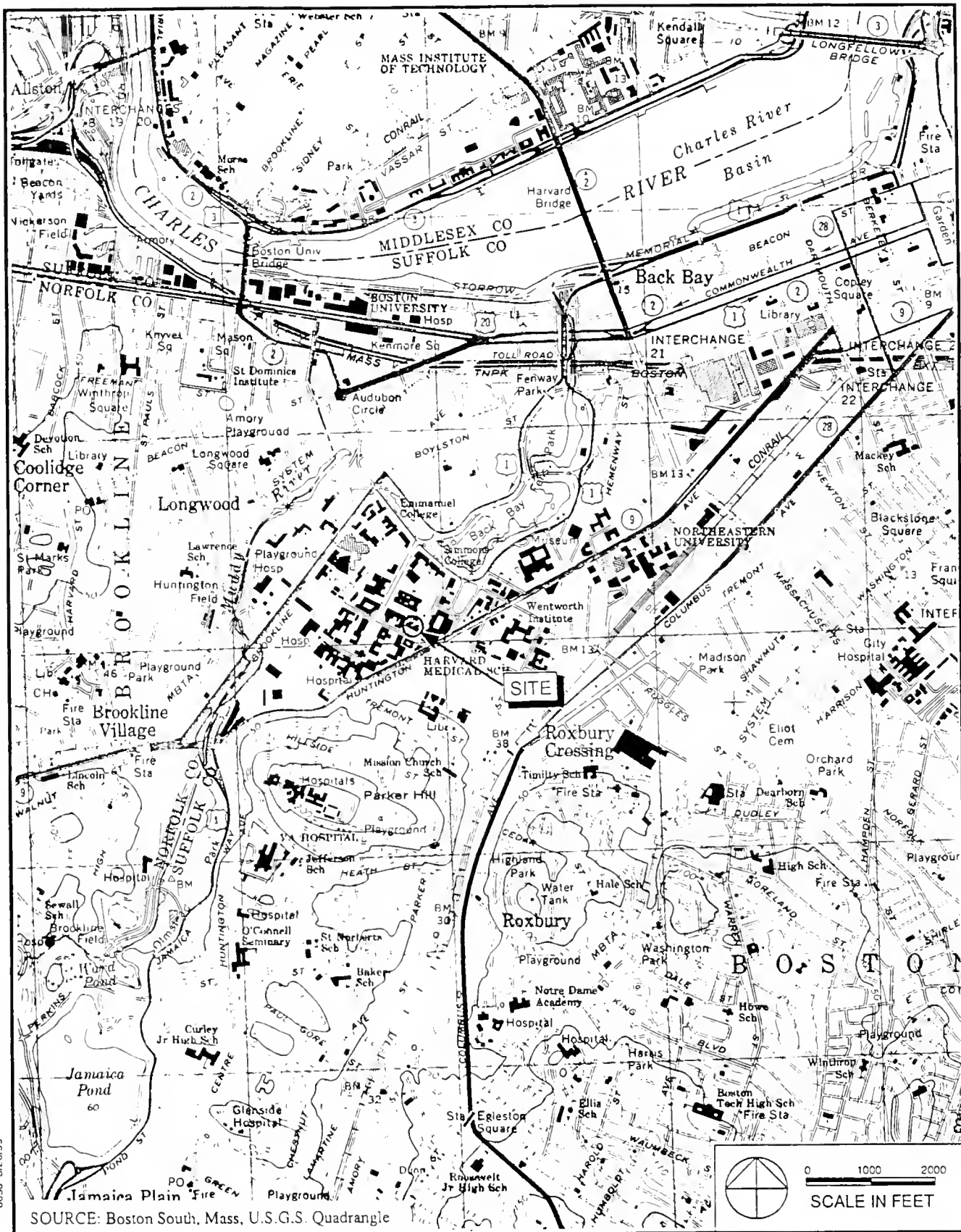


Exhibit 1
 Site Locus Map
 Massachusetts College of Pharmacy and Allied Health Sciences

and expand upon its existing relationships with other LMA institutions. These needs require new and updated physical facilities and new on-campus student housing, which will be made possible by revenues from BWH in the form of lease payments for its use of the Research Facility.

Affordable on-campus student housing is a central need at the College. The demand is greatest for entering freshmen, although housing availability is also required to be provided to other students (non-freshman).



1. MISSION STATEMENT OF THE COLLEGE

1. MISSION STATEMENT OF THE COLLEGE

The College was founded in 1823 "to provide the means of a systematic education," to promote "the spirit of pharmaceutical investigation," and to disseminate "information among members of the profession." Now in its second century, the College has built upon its tradition of excellence in pharmacy education by creating equally innovative programs in nursing and the allied health sciences. Looking to the future, the College will continue to develop programs which recognize the changing needs of society and the expanding roles of health practitioners.

The College's undergraduate programs integrate theoretical and applied knowledge in the health professions with general education in the arts and sciences so that students will become enlightened citizens as well as competent practitioners. The graduate programs deepen students' understanding in specialized fields of knowledge in order to prepare them for leadership roles in higher education, industry, government, and health-care practice.

To meet the educational and scholarly needs of its students and faculty, the College recognizes an obligation to provide the support and facilities necessary for active learning and sound research. Proud of its alumni, the College promotes achievement in health-care practice through continuing education programs and service to professional associations, health-care organizations, and to the community.

1.1 Academic Programs

The College offers the following academic programs to its 1,325 students:

- Associate in Science, Radiation Therapy Technology
- Associate in Science, Nuclear Medicine Technology
- Bachelor of Science, Nursing (for Registered Nurses only)
- Bachelor of Science, Radiation Therapy Technology
- Bachelor of Science, Nuclear Medicine Technology
- Bachelor of Science, Allied Health Sciences (Minor in Management)
- Bachelor of Science, Health Science (Major in Psychology)
- Bachelor of Science, Chemistry/Pharmacy (Dual degree)
- Bachelor of Science, Chemistry
- Bachelor of Science, Pharmacy
- Doctor of Pharmacy
- Master of Science, Nuclear Pharmacy
- Master of Science, Doctor of Philosophy, Phytochemistry
- Master of Science, Doctor of Philosophy, Pharmacology

- Master of Science, Doctor of Philosophy, Pharmaceutical Sciences (Biopharmaceutics, Industrial Pharmacy)
- Master of Science, Doctor of Philosophy, Chemistry (Analytical Chemistry and Medicinal Chemistry)

1.1.1 Pharmacy

Students in the Bachelor of Science, Pharmacy program follow an integrated didactic curriculum of general education and pharmaceutical sciences. In the final year of the program, students participate in three experiential education programs: an eight week clinical clerkship; a five week hospital pharmacy externship; and a five week community pharmacy externship. Students in the post-baccalaureate Doctor of Pharmacy program, all registered pharmacists, complete eleven months of clinical clerkship in the final year of their program.

The LMA affiliate institutions that support these programs include: Beth Israel Hospital, BWH, Children's Hospital Medical Center, and the Dana-Farber Cancer Institute. Other affiliate institutions in Boston include Massachusetts General Hospital, New England Medical Center, The University Hospital and St. Elizabeth's Hospital.

Through the clinical pharmacy clerkship program, students contribute to patient care activities within the College's clinical affiliate institutions. All students are precepted by College-appointed pharmacy practice faculty. Both faculty and students provide year round clinical pharmacy services through participation as members of the general medicine and specialty medical teams at sites. Specific services include therapeutic drug monitoring, in-service education, adverse drug reaction reporting, and patient counseling. The drug information center at New England Medical Center, directed by College faculty, provides support for the clinical practice programs through service to health-care practitioners and to the lay public. College faculty also participate in clinical research efforts in collaboration with physicians, nurses and other health professionals.

The pharmacy externship program provides students with experience in maintaining patient medication profiles, monitoring drug therapies, dispensing medications, and counseling patients on how to use their medications to achieve desired outcomes. The externships are offered at community pharmacies and area hospitals including several in the LMA.

1.1.2 Nursing

The nursing program initiated in 1983 offers a Bachelor of Science in Nursing (B.S.N) for registered nurses who hold a hospital diploma or associate degree in nursing. The program provides its students with the opportunity to earn a degree on a part-time basis while attending either day or evening classes. A significant number of nursing students enrolled in the B.S.N. program are employed by health care institutions within the LMA. These Registered Nursing (R.N.) students incorporate the knowledge gained through study at the College into their daily professional practice, thus directly benefiting the metropolitan health-care consumer.

The College maintains an ongoing affiliation in conjunction with the Brockton/West Roxbury Veteran's Administration Medical Center (VAMC), offering on-site courses to VAMC R.N.'s who wish to complete their baccalaureate degree in nursing.

Since Spring 1986, when the program received initial accreditation from the National League for Nursing, enrollment has grown by 15%.

1.1.3 Allied Health Sciences

Additionally, College programs in Allied Health Sciences require teaching affiliations at nearby LMA institutions. At present, these include Associate of Science (A.S.) and Bachelor of Science (B.S.) programs in Radiation Therapy Technology (RTT) and Nuclear Medicine Technology (NMT) and a Bachelor of Science Degree-Completion program in Allied Health Sciences (AHS). The RTT programs are offered in collaboration with the Joint Centers for Radiation Therapy (JCRT) and its affiliated hospitals: Beth Israel Hospital, BWH, Children's Hospital Medical Center, Dana-Farber Cancer Institute, Metro-West Medical Center, and New England Deaconess. The NMT programs have as their clinical affiliates all of the hospitals mentioned above except Metro-West Medical Center, and in addition: Boston University Hospital, Massachusetts General Hospital and New England Medical Center. The Bachelor of Science Degree-Completion program in AHS is a part-time, evening program designed for employed technologists who seek to extend their education beyond their certificate or Associate in Science degree. This program is wholly reliant on the availability of teaching affiliations with LMA hospitals and institutions.

1.1.4 Library and Information Services

The Sheppard Library is a medical and pharmaceutical information center which currently receives 800 serials subscriptions, and maintains a collection of more than 70,000 volumes, including an archives collection which documents the history of the College and its ongoing involvement in the LMA. Specializing in pharmacy education and practice, drug information, medicinal chemistry, clinical medicine, nursing education and allied health areas, the Library is able to respond to a wide range of health-related information requests from a diverse user population. In addition to serving College personnel, the Library also provides on-site access to its resources for members of the general public, and assists the College's Drug Information Center, located at the New England Medical Center, with providing drug information to pharmacists, other health professionals, and the metropolitan community at large.

The Sheppard Library participates in several library organizations which promote resource sharing and ensure efficient delivery of information. Among these are:

- The Massachusetts Health Sciences Library Network (MHSLN) is an organization of over 100 medical libraries located within the state, including many of the libraries located within the LMA, who lend materials to each other and produce annually a list of serial holdings held collectively by the membership.
- The Fenway Library Consortium (FLC) is a group of fourteen multi-type libraries which makes its resources available to faculty, students, and staff of its member institutions. Currently, eight institutions of FLC, including the College, are also members of a computer-based system which automates a number of library functions and provides an on-line public catalogue of holdings, currently numbering over 400,000.
- The National Network of Libraries of Medicine (NN/LM) is a program coordinated by the National Library of Medicine in Bethesda. As one of eleven designated Resource Libraries in the New England Region of the Network, the Sheppard Library serves as the back-up for pharmaceutical information for health sciences libraries in New England, and has committed itself to ensuring health professionals access to the resources of the medical libraries throughout the country.

1.2 The College and the Boston Public Schools Collaboration

As a charter member of the Boston Higher Education Partnership, the College has been involved in efforts to assist the Boston Public Schools by improving the educational climate and offerings in the city during the past eighteen years. In supplementing funds provided by the Commonwealth under its Chapter 636 legislation, the College has contributed the equivalent of more than \$275,000 in administrative and instructional support during the last eight years alone.

From 1975 to 1988, the College was paired with the Charles E. Mackey Middle School, located at 90 Warren Avenue in Boston's South End. As the mission of the Mackey School evolved over the years, from a magnet school in the arts and humanities to a school whose emphasis was on two-way bilingual education, the College's administration, faculty, and students helped to design and implement such programs as:

- A state-of-the-art language laboratory;
- Curriculum support for science and English teachers;
- An annual school-wide science fair;
- A basic skills learning center;
- A drug abuse education program;
- Elective courses in the humanities;
- Multi-cultural arts programming; and
- Technical assistance to Mackey's faculty and administration.

In 1980, an independent evaluator called the pairing "exceptionally successful" because the College "has not only supported but actively helped the school and parents define Mackey's magnet theme." In a report to the Boston School Department, the Mackey administration described the College as "an excellent resource" which "has provided us with continuity through many administrative and staffing changes."

In 1988 the Mackey Middle School was closed by the Boston School Committee and the College was re-paired with the Umana Barnes Middle School on Border Street in East Boston. The new program with the Umana Barnes Middle School concentrates on science and laboratory tutoring. Students from the College visit the Barnes School approximately three days per week during the school year to assist Boston teachers with laboratory preparation and to provide tutoring for the 6th, 7th and 8th-grade students. The College employs a part-time Coordinator to supervise the tutors and to assist the Barnes science faculty with curriculum planning. Other aspects of this unique partnership include:

- A Laboratory Manual prepared by the College for Barnes students;
- Tutoring in both Spanish and English;
- A Career Day visit to the College for 8th-grade students; and
- Field trips to the Science Museum and New England Aquarium's Harbor Exploration Program.

In the fall of 1992, the College began an additional partnership with the Fenway Middle College High School in Charlestown. In collaboration with the Melville Corporation, which operates CVS pharmacies, the College provides curriculum and organizational support for an innovative 4-year college preparatory program designed to groom minority students for careers in pharmacy and the health professions. A monitoring program, career awareness workshops, and special courses are being developed by faculty from the College and the Boston Public Schools, working with practicing professionals in health-related fields

The College's Nursing program provides direct services to health practitioners in the following public schools and neighborhood health centers:

- Brighton High School
- Boston Latin School
- Edwards Middle School in Charlestown
- Barnes Middle School in East Boston
- Bunker Hill Community Health Center in Charlestown
- Dimock Health Center in Roxbury
- Rosie's Place in Boston

Registered Nurses, who are enrolled in the B.S.N. program at the College, assist in these settings as part of their required clinical experience.

The College is an active participant in many other community, educational and civic projects and programs throughout the Greater Boston Area. Section 5.0, Community Benefits and Services, lists these additional College sponsored activities.

1.3 Economic Opportunities

The College provides economic opportunities for jobs in the health field for City residents.

The College employs approximately 134 people. Of these, 23% are residents of the City of Boston.

The College's economic effect, in the Metropolitan Boston Area, totals over \$6,100,000 annually.



2. GROWTH AND CHANGE, 1982-1992

2. GROWTH AND CHANGE, 1982-1992

2.1 Existing Conditions

During the past five years, the College has experienced significant changes in the demographic profile of its student population. Whereas fifteen years ago the majority of its students originated from the New England area, the current student body includes students from 35 states and 24 countries. This trend has escalated the need for affordable, on-campus student housing.

During the past ten years, the pharmaceutical profession has experienced a shortage of trained pharmacists, and an increased demand for clinical and institutional pharmaceutical professionals.

The College currently serves a population of approximately 1,325 students, plus faculty and staff in three on-campus buildings.

2.2 Enrollment in Academic Programs

The following table of fall enrollments for all programs indicates a 4% increase annually in the number of students during the past five years.

Fall Enrollments, All Programs by Year

| <u>Academic Year</u> | <u>Full-Time</u> | <u>Part-Time</u> | <u>Full-Time Equivalents</u> |
|----------------------|------------------|------------------|----------------------------------|
| 1988-1989 | 931 | 141 | 1,031 |
| 1989-1990 | 923 | 205 | 1,033 |
| 1990-1991 | 914 | 181 | 1,022 |
| 1991-1992 | 970 | 232 | 1,102 |
| 1992-1993 | 1,103 | 218 | 1,226 |

College applications have risen steadily. The following table indicates the increase in applications and acceptances which began with the fall of 1991.

Undergraduate Applications and Acceptances, 1988 - 1992

| | <u>Academic Year</u> | | | | |
|--|----------------------|--------------|--------------|--------------|--------------|
| | <u>88-89</u> | <u>89-90</u> | <u>90-91</u> | <u>91-92</u> | <u>92-93</u> |
| <u>Applications</u> | | | | | |
| First Year | 380 | 319 | 334 | 363 | 577 |
| Transfers | <u>518</u> | <u>520</u> | <u>560</u> | <u>790</u> | <u>961</u> |
| TOTAL | 898 | 839 | 894 | 1,153 | 1,538 |
| <u>Acceptances</u> | | | | | |
| Acceptances | 622 | 593 | 603 | 738 | 862 |
| Acceptances as a Percent of Applicants | 69% | 71% | 67% | 64% | 56% |

The College plans to increase acceptances by approximately 50 to 100 students following completion of the Project described in this Master Plan.

2.3 Major Anticipated Programmatic Changes

2.3.1 *Pharmacy*

It is anticipated that within the next ten year period accreditation requirements for the pharmacy program will add an additional year of study to the curriculum. This new 6 year program will lead to the awarding of a Doctor of Pharmacy (Pharm.D.) degree. This concept in pharmacy education encompasses the philosophy of pharmaceutical care which requires pharmacists to work with patients and health professionals to design, implement and monitor drug therapy plans to improve a patient's quality of life. Collaborative arrangements with neighboring health care facilities will be critical in order to achieve optimal educational outcomes. The construction of the Project described in this Master Plan will ensure relevant, state-of-the-art learning experiences for the College's students. Furthermore, accreditation standards will mandate an increase in the experiential component of the curriculum, most of which is conducted in major teaching hospitals such as the BWH.

2.3.2 *Nursing*

Plans are underway for the development of a continuing education program that would qualify nurse practitioners for prescriptive practice. The College's proximity to neighboring health care institutions assures the viability of such a program.

2.3.3 *Allied Health Sciences*

The Allied Health Sciences programs have also expanded during the past five years. During this time, the College appointed a Director of Allied Health Sciences and implemented three new Bachelor of Science degree programs: two full-time day programs in Nuclear Medicine Technology and in Radiation Therapy Technology, and one part-time evening Degree-Completion Program in Allied Health Sciences. Continued expansion of Allied Health Sciences programs will create a corresponding need for additional classroom space. Additional programs being considered or planned by the College include: Diagnostic Medical Sonography, Cytotechnology, Occupational Therapy and Magnetic Resonance Imaging. A severe shortage of skilled professionals in these fields currently exists and is expected to remain for the remainder of the 1990's according to the Summit on Manpower Report of 1989.*

2.3.4 *Library and Information Services*

Several information service activities, potentially beneficial to the community but whose success largely depends upon improved facilities, are currently under consideration by the College.

Expansion of educational opportunities for the College's faculty and students, and area health care practitioners is a major goal of the Sheppard Library. Currently, there is no state-of-the-art classroom equipped with the required equipment to enable instruction in the use of information resources and technology. In addition to an improved bibliographic instruction component targeted for integration throughout the curriculum, library staff wish to offer classes for pharmacists and other health professionals in the use of resources appropriate to their needs.

* The Summit on Manpower is a collaborative effort of 17 national health care organizations formed under the guidance of the American Healthcare Radiology Administrators and chaired by Loretta L. Hanwell.

Ways to strengthen the partnership between the Library and the College's drug information service are under discussion. Among the possibilities is relocation of the service to the College's Campus. This decision could enable the College to streamline the operation, avoid duplication of costs incurred throughout the purchase of information materials, provide drug information to students with an on-site training facility, and to position itself for possible future activities such as providing planned drug information services for local health institutions.

2.4 Research

The College assembles a multi-disciplinary team of clinical, administrative, and basic scientists in programs ranging from fundamental science in chemistry, pharmacology, and pharmaceuticals, to applied research in health care and clinical drug therapy. The diversity of its research activities provides a framework for the development of inter-institutional research programs that seek answers to important problems in the pharmaceutical and clinical sciences, and in pharmaceutical health care within the resources of the collaborating institutions.

The range of educational experiences and resources which will be provided collectively by the effort between BWH and the College as a result of the development described in this Master Plan is one that neither institution can provide alone. The College's Project described in this Master Plan, including the Research Facility described herein, will promote interdisciplinary collaboration and provide an institutional framework for the joint efforts between pharmaceutical and clinical scientists at the College with biomedical scientists at the BWH.

The College has the expertise to conduct clinical studies, and basic science research into the organic synthesis and analysis of, pharmacological characterization of, and dosage form development for new and existing therapeutic agents. However, the College is hampered by the lack of up-to-date facilities and efficient laboratory space. A contemporary facility with increased efficiency and equipped with modern instrumentation and laboratory space is desperately needed in order for the College and its faculty to continue to obtain research funds, to attract new faculty, and to maintain an active or competitive graduate program. Approximately 60% of the proposed academic/science space described in this Master Plan will be devoted to these research activities.

Collaborative research efforts within the local area include the Deaconess Home Health Care, The Cancer Center, the Commonwealth of Massachusetts, Genetics Institute, Vertex Pharmaceuticals, Harvard Institute of International Development, Whittaker Health Science College at the Massachusetts Institute of Technology, the Joint Center for Radiation Therapy at the Dana- Farber Cancer Center, and Advanced Magnetics. Additional collaboratives exist with other Massachusetts-based pharmaceutical companies, and national pharmaceutical companies.

2.5 Housing

The College presently provides student housing to approximately 17% of its total student body. The College has no student housing within its ownership and control. It currently leases residential space from Emmanuel College. This lease arrangement, which expires in the near future, is not optimal for the College. It is not economical for the College to continue to lease space. Furthermore, an off-site lease arrangement prevents the College and its students from appropriately integrating its academic schedule and dining operations, which is critical to the proper management of the College.

2.6 Existing Ownership/Land Uses/Building Occupancies

2.6.1 College Owned Facilities

The sole property the College owns is located at 179 Longwood Avenue (the Site or Campus). The Site is bounded southwesterly by Longwood Avenue; northwesterly by the BWH's LMRC; northeasterly by the Boston Latin School; and southeasterly by Palace Road. The Site consists of approximately 90,147 square feet (2.0± acres).

The Site is presently occupied by three buildings: the White Building, the Newton Building, and the Garage/Office Building, described above. The largest building is the three-story White Building of 89,000 GSF/FAR, containing classroom, administrative and faculty offices, and student support space. The White Building was a gift from the George Robert White Trust Fund, a fund managed and administered by the City of Boston. The Newton Building, which is four stories, is located to the rear of the Site adjacent to the Boston Latin School property line. It will be demolished to allow construction of the Project. A one-story garage building, converted to office and storage space (the "Garage/Office Building"), is located to the rear of the White Building along the property line adjacent to the LMRC. This building will also be demolished.

There are 150 surface parking spaces which exist in three lots on the Site. Loading areas and service areas are accessed from the parking area behind the White Building, off of Palace Road and are visible from the street.

A plan of existing conditions is depicted in the accompanying Master Plan drawings at the end of Section 3. A summary of these buildings and relevant data follows:

| <u>Existing Building</u> | <u>Date Completed</u> | <u>Approx. G.S.F. (FAR)</u> | <u>Current Uses</u> |
|---------------------------------|------------------------------|------------------------------------|--|
| White Building | 1917 | 89,000 | Classrooms, Auditorium, Laboratory, Student Support Areas, Administration, Offices |
| Newton Building | 1961 | 25,000 | Laboratory, Classrooms, Offices |
| Garage/Office Building | 1917 | <u>1,000</u> | Storage, Offices |
| TOTAL GSF/FAR | approx. 115,000 | | |

2.6.2 College Leased Facilities

The College currently leases a residence hall, Loretto Hall, from Emmanuel College to provide dormitory space for its students.



3. FACILITY NEEDS, 1993-2003

3. FACILITY NEEDS, 1993-2003

The Trustees of the College are committed to continuing and reinforcing the institution's pre-eminent position in the education and training of pharmacists and other health-care professionals, and in developing new skills to meet the challenges of future developments in medicine and health-care practice.

To meet the educational and scholarly needs of its students and faculty, the College recognizes an obligation to provide the resources to encourage learning, research and scholarship.

The proposed development described in this Master Plan will provide facilities that will support teaching and research initiatives for at least the next decade in the following two broad areas:

- Strengthening and modernizing existing teaching programs with the highest levels of technology and efficiency in classrooms and laboratory environments and instrumentation; and
- Initiating a more intensive effort in the conduct of basic research in the health sciences as part of the curricula of the undergraduate and advanced-degree levels.

The College will seek active involvement in and support from the enormous growth in biomedical research being conducted in the Boston area. A critical element in the College's long-range plan is to advance its educational mission at the same pace as other developments in the health-care industry.

The College also seeks to better serve its students, particularly freshmen, by providing new on-campus student housing.

3.1 Description of Master Plan Development/Project

Projected on-campus facilities requirements and proposed space changes at the College over the next ten years are described in this section and illustrated in accompanying drawings at the end of this section (Exhibits 3.1 through 3.9).

3.1.1 The White Building

The College intends, as part of the Project described in this Master Plan, to undertake the phased renovation of the White Building. The White Building was constructed in 1917 and has served as the College's primary facility since that time. These renovations include the construction of new rooftop additions

to the rear corners of the White Building on the second and third levels, a basement level addition in currently unexcavated space which will provide new classroom space, and general renovations to the White Building which in the aggregate will also result in approximately 7,824 GSF/FAR of new occupiable space in the White Building. The proposed renovations to the White Building will result in improved recreation, administrative, library and classroom space for the College, and insure compliance with the requirements of the State Building Code and Handicapped Access Regulations. The schedule of renovations to the White Building will be phased, based upon funding availability and academic schedule constraints.

3.1.2 The New Building

The College is proposing to construct the New Building to the north side (rear) of the White Building, and adjacent to the LMRC property line and to the Boston Latin School property line. The New Building will be approximately 171,251 GSF/FAR, and is designed to improve and consolidate the College's facilities. See Table 3.1 for a break down of the areas within the New Building.

The New Building will consist of an eight story "mixed use" space which will accommodate three programmatic components: academic, student life and student housing, and research space. A new below grade parking garage, which will replace approximately 100 surface parking spaces located on-site, will be located beneath the New Building. The New Building will also contain a rooftop mechanical penthouse and service support floor below grade. The service floor contains mechanical equipment and other support spaces, including support laboratories. The New Building will also include a below grade connection to BWH's LMRC.

The lower two floors of the New Building will accommodate approximately 43,902 GSF/FAR of space for academic and student life activities such as classrooms, faculty offices, teaching labs, research labs, cafeteria, and student lounge (or commons). These floors will be accessed through a skylit atrium and lobby that extends the length of the Site and connects the New Building and the White Building. This lobby will be entered from both the east and west ends of the Site, as well as from the White Building, and will serve as a generous connection to College functions in the White Building and the New Building.

Table 3.1: Massachusetts College of Pharmacy and Allied Health Sciences Project Area Tabulation (FAR Gross Square Footage)¹ and Parking

| | <i>Current and Proposed Uses and Areas</i> | | | |
|---|--|--------------------------|-----------------|-------------------------|
| | <u>Approximate GSF/FAR</u> | | <u>Parking</u> | |
| | <u>Existing</u> | <u>Proposed</u> | <u>Existing</u> | <u>Proposed</u> |
| Classroom, Academic, Administration and Supporting Uses | 115,000 ² | 43,902 ³ | - | - |
| Dormitory | - | 40,882 | - | - |
| Tenant/Research and Development Space | - | 68,111 | - | - |
| Parking/Service/Lab. Support | - | <u>18,356</u> 171,251 | 150 | 119 to 124 ⁴ |

¹ Including approximately 91 to 96 spaces in a below-grade parking garage.

² Including White, Newton, and Garage/Office Buildings currently on-site.

³ Includes additional space only in the New Building. Note that these floor areas are subject to change as the design is developed. However, the total area will not exceed an FAR of 3.0.

⁴ Includes approximately 91 to 96 spaces in proposed garage and a maximum of 28 spaces remaining in two surface lots in front of the College. In addition, the College will cooperate with MASCO's efforts to identify additional parking outside the LMA.

The east end of the upper six floors of the New Building will contain approximately 40,882 GSF/FAR of housing for approximately 175-180 students. In addition to the typical double bedrooms, each housing floor will have a lounge, study space, kitchen, and central toilets and showers. The housing floors will be entered from its own separate and controlled lobby and elevators, with total separation from all other uses on all floors.

The west end of the upper six floors of the New Building will provide approximately 68,111 GSF/FAR of laboratory and research space that will be leased initially to BWH (the "Research Facility"). The Research Facility will be entered from its own separate and controlled lobby and elevators that will also connect at the service level to the adjacent LMRC. The service level discussed below will contain support for the Research Facility.

All construction and completion dates are approximate and may be affected by delays due to permitting, financing, weather, and other matters beyond the control of the College. Construction of the New Building will commence in July of 1993 and be completed by August of 1995. It will require the demolition of the existing Newton Building and the Garage/Office Building, shown on the attached plans. Renovations to the White Building will extend beyond the completion of the New Building and will be phased, based on funding availability and academic schedule constraints. The College may be required to seek additional space in which to relocate the occupants of the Newton and the Garage/Office Buildings which will be demolished pending construction and occupancy of the New Building.

3.1.3 Parking

There will be a decrease in the overall number of parking spaces at the Site, which is approximately 150 spaces. A one-level parking garage will be constructed below grade, beneath the New Building. The garage will accommodate approximately 91 to 96 cars that will replace approximately 100 at-grade parking spaces currently located behind and to the side of the White Building. Access to the garage will be provided from Palace Road.

The College has also provided a loading dock and service level within the Garage. This floor contains mechanical equipment space, storage space, and laboratories which support the research activities performed in the upper floors. Placing the loading dock within this floor will assure that facility services are not visible from Palace Road, and do not interfere with pedestrian movement along the Palace Road sidewalk. The College has given up potential available parking spaces within the garage to create this internal service area.

Twenty-eight existing at-grade parking spaces, replacing 50 spaces currently located in front of the College, are proposed to remain. Design changes to the existing configuration of the surface parking lots will create additional landscaping within the parking areas. The College has committed the necessary funds for design, original landscaping, and maintenance to provide a more pleasing and inviting open-space along Longwood Avenue.

After a lengthy study by the College of their parking requirements, the parking scheme that provides for 28 at-grade spaces and approximately 91 to 96 below-grade, garage spaces, was determined to be the only practical and feasible option available to the College. In addition, the College will cooperate with MASCO's efforts to identify additional parking outside of the LMA.

For further details on all aspects of the Project described in this Master Plan, see the Final Project Impact Report/Final Environmental Impact Report dated May 1993, prepared by the College and its consultants.

3.2 District Zoning Concept

The LMA, which includes the Site, has been the subject of a rezoning effort on the part of the City, the Boston Redevelopment Authority (BRA), and various community groups and other interested persons over the past several years. While the zoning for the LMA as a whole has not yet been finalized, the current expectation is that final zoning will be modeled on the zoning which is in effect within the Allston-Brighton Neighborhood Zoning District, Article 51 of the Zoning Code, and that in effect within the LMA for Beth Israel Hospital, Article 70 of the Zoning Code. These zoning controls contain the following requirements with respect to institutional development: a) the establishment of institutional districts; and b) the submission, review and approval of an institutional master plan as the means through which projects would be approved in the context of an institutional development. The establishment of institutional subdistricts and the approval of institutional master plans requires community review and comment, a favorable recommendation by the BRA Board, and adoption by the Boston Zoning Commission. Certain projects undergo review in accordance with the development review requirements set forth in Article 31 of the Zoning Code. The zoning proposed for the LMA as a whole is expected to contain the zoning controls set forth in Article 51 and Article 70, modified as appropriate to the LMA.

The zoning controls applicable to the College's Campus, which is located within the LMA, are set forth in zoning text and map amendments to the Boston Zoning Code, which have been proposed by the BRA and adopted by the Zoning Commission. These amendments, together with this Master Plan, which incorporates by reference the College's Development Impact Project Plan ("DIPP") submitted for approval in accordance with Articles 26-26B of the Zoning Code and the College's Project as described in the College's FPIR/FEIR, set forth the zoning controls in effect within the College's Campus - the Massachusetts College of Pharmacy and Allied Health Sciences Institutional District. The maximum allowable FAR within the Massachusetts College of Pharmacy and Allied Health Sciences Institutional District is 3.0, and maximum allowable height is 155 feet. Development within this Institutional District is allowed provided that it is consistent with this Master Plan, the DIPP, and the Development Impact Review Requirements set forth in Article 31 of the Zoning Code as they apply to the College's Institutional District. The zoning controls applicable to the College's use and development of its Campus are consistent with the BRA's plan for institutional development within the LMA as a whole.

BOSTON LATIN HIGH SCHOOL

MASS. COLLEGE
OF ART

EXISTING
PARKING

NEWTON
BUILDING

EXISTING
PARKING

GARAGE/OFFICE
BUILDING

BRIGHAM AND WOMEN'S
HOSPITAL LONGWOOD
MEDICAL RESEARCH CENTER

PALACE ROAD

WHITE
BUILDING

EXISTING
PARKING

EXISTING
PARKING

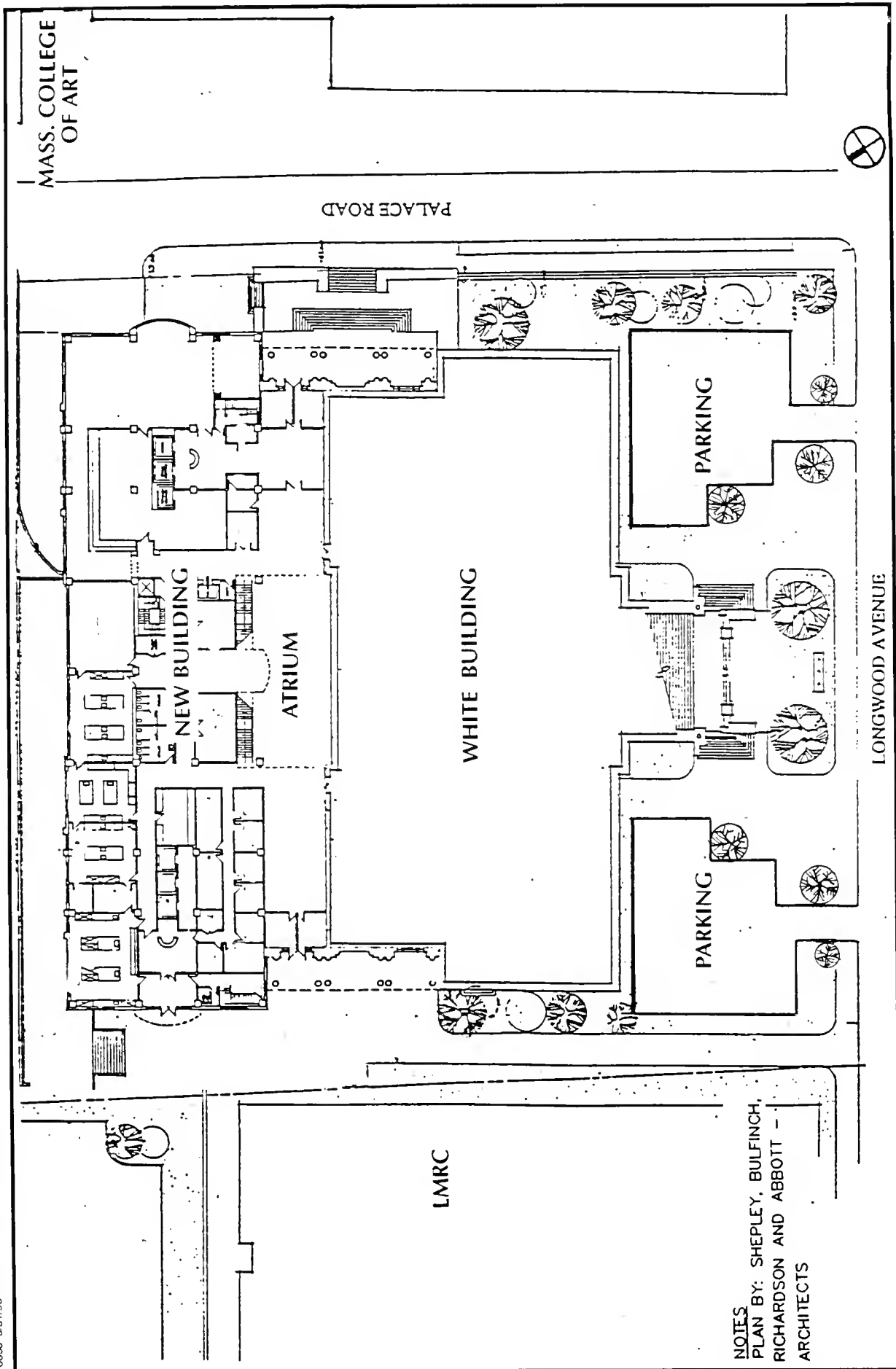
LONGWOOD AVENUE



NOTES

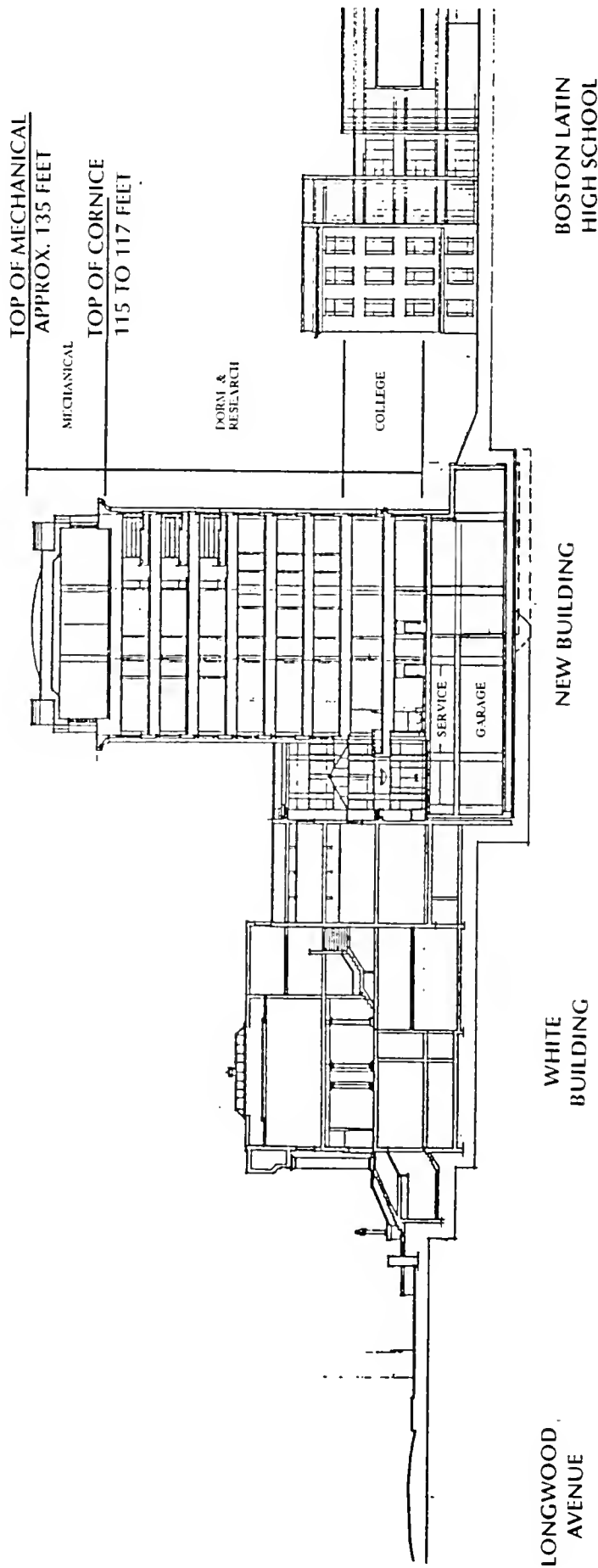
PLAN BY: SHEPLEY, BULFINCH, RICHARDSON AND ABBOTT - ARCHITECTS

Exhibit 3.1
Existing Site Plan
Massachusetts College of Pharmacy and Allied Health Sciences



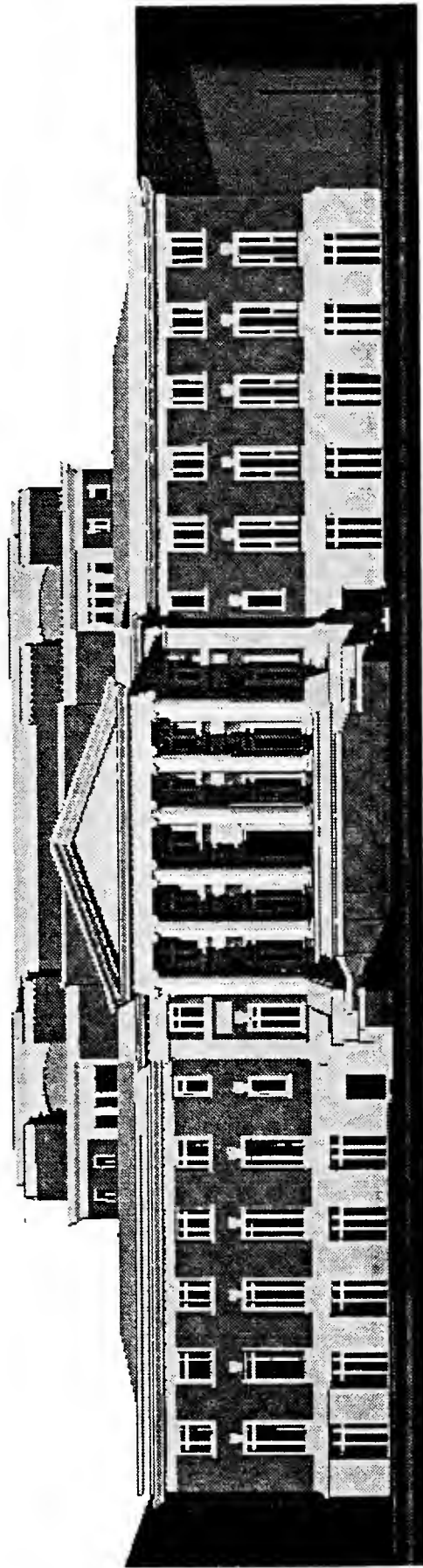
NOTES
 PLAN BY: SHEPLEY, BULFINCH,
 RICHARDSON AND ABBOTT -
 ARCHITECTS

Exhibit 3.2
 Proposed Site Plan
 Massachusetts College of Pharmacy and Allied Health Sciences



NOTES:
 Plan By: Shepley, Bullfinch, Richardson and Abbott - Architects
 Heights: Above Average Palace Road Grade

Exhibit 3.3
 Section From Palace Road
 Massachusetts College of Pharmacy and Allied Health Sciences

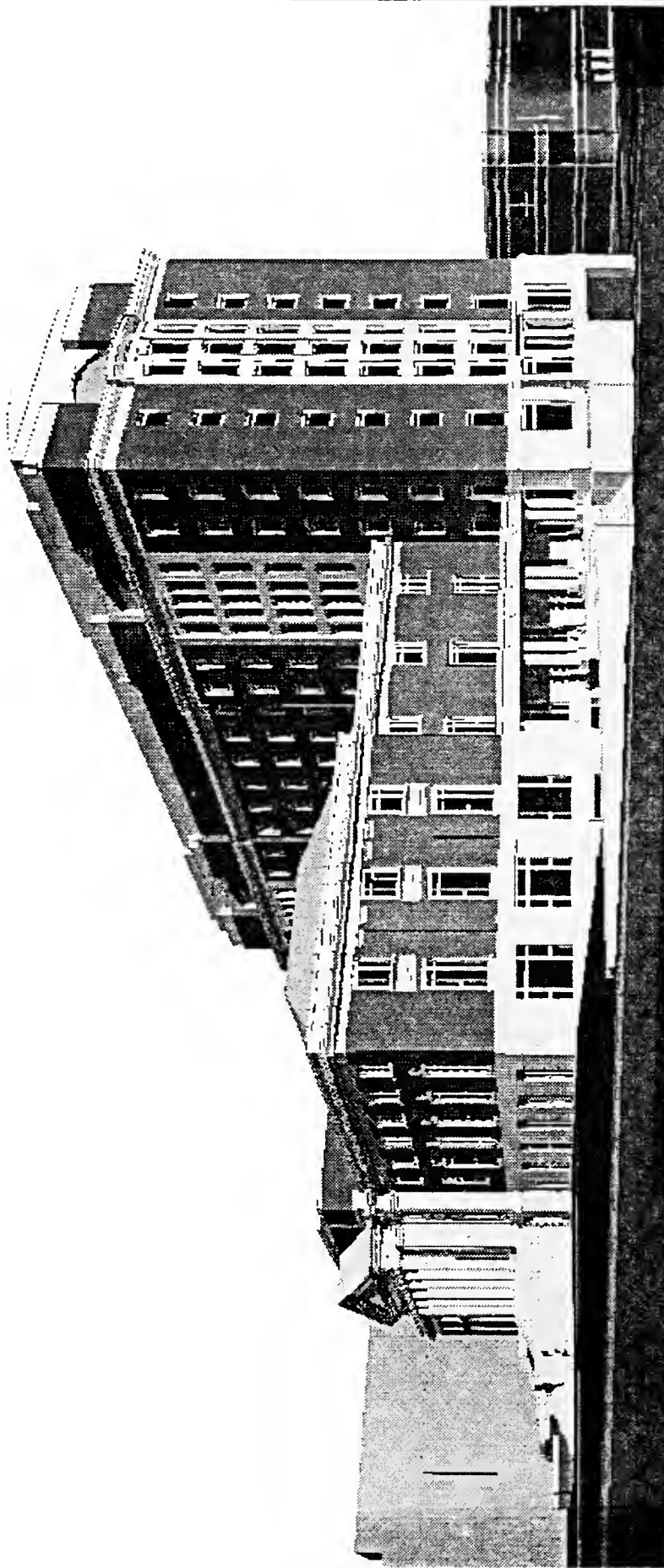


NOTE: BY SHEPLEY BULFINCH RICHARDSON AND ABBOTT - ARCHITECTS

Exhibit 3.4
Perspective From Longwood Avenue
Massachusetts College of Pharmacy and Allied Health Sciences

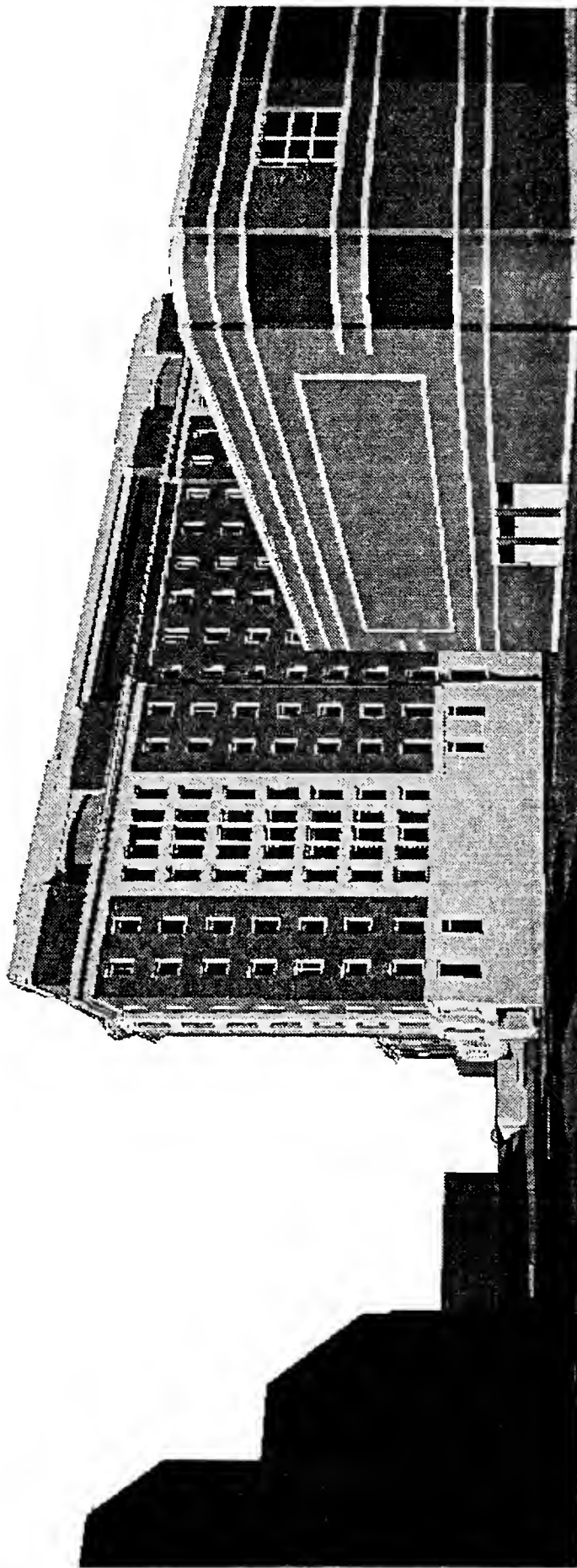


HMM Associates, Inc.
A Summit Company



NOTE: BY SHEPLEY BULFINCH RICHARDSON AND ABBOTT - ARCHITECTS

Exhibit 3.5
Perspective From Palace Road
Massachusetts College of Pharmacy and Allied Health Sciences



NOTE: BY SHEPLEY BULFINCH RICHARDSON AND ABBOTT - ARCHITECTS

Exhibit 3.6
Perspective From Boston Latin
Massachusetts College of Pharmacy and Allied Health Sciences



NOTE: BY SHERPLEY BULFINCH RICHARDSON AND ABBOTT - ARCHITECTS

Exhibit 3.7

Perspective of Side Facing Avenue Louis Pasteur
Massachusetts College of Pharmacy and Allied Health Sciences



HMM Associates, Inc.
A Summit Company

6650 3/31/93

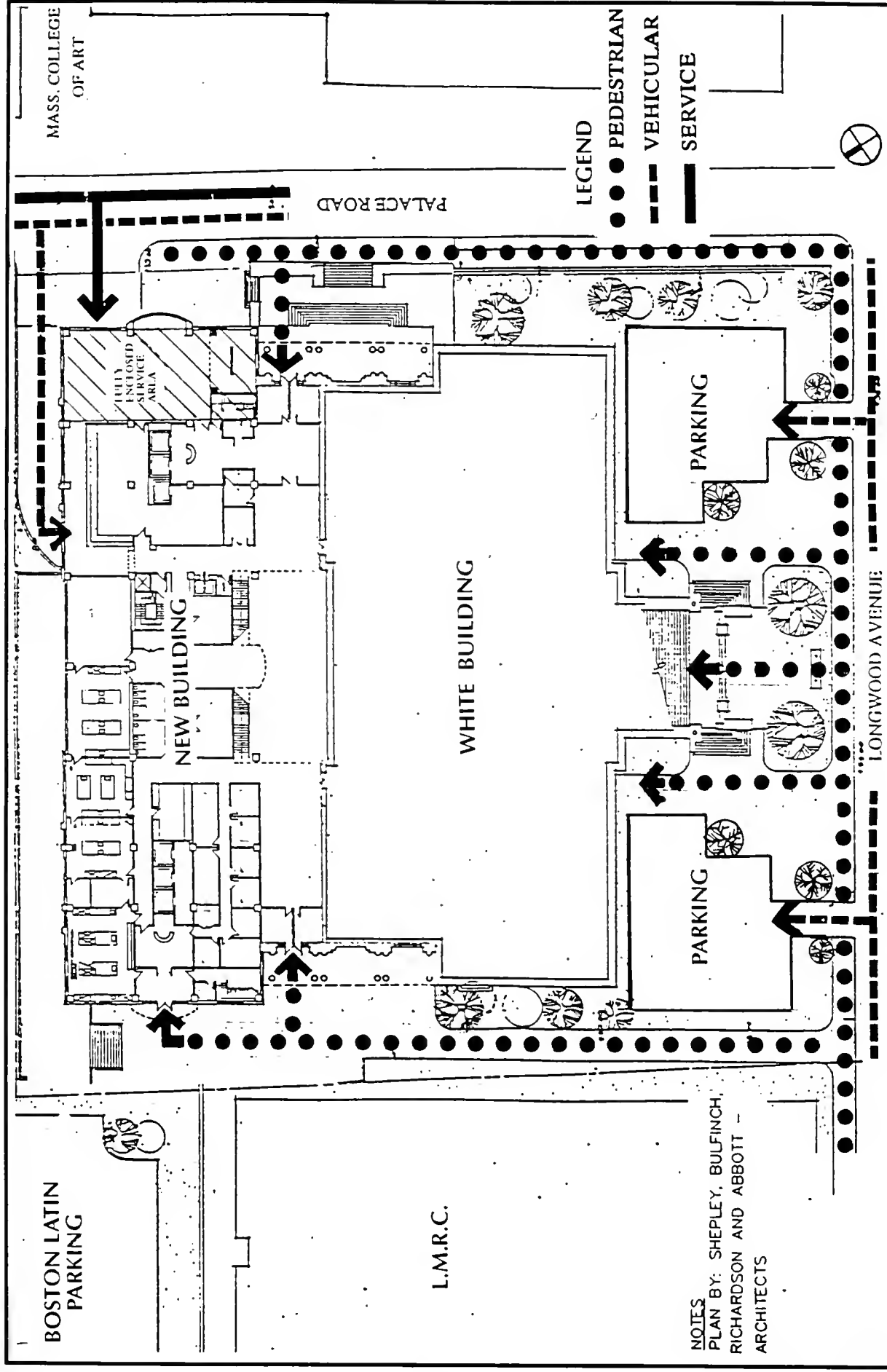
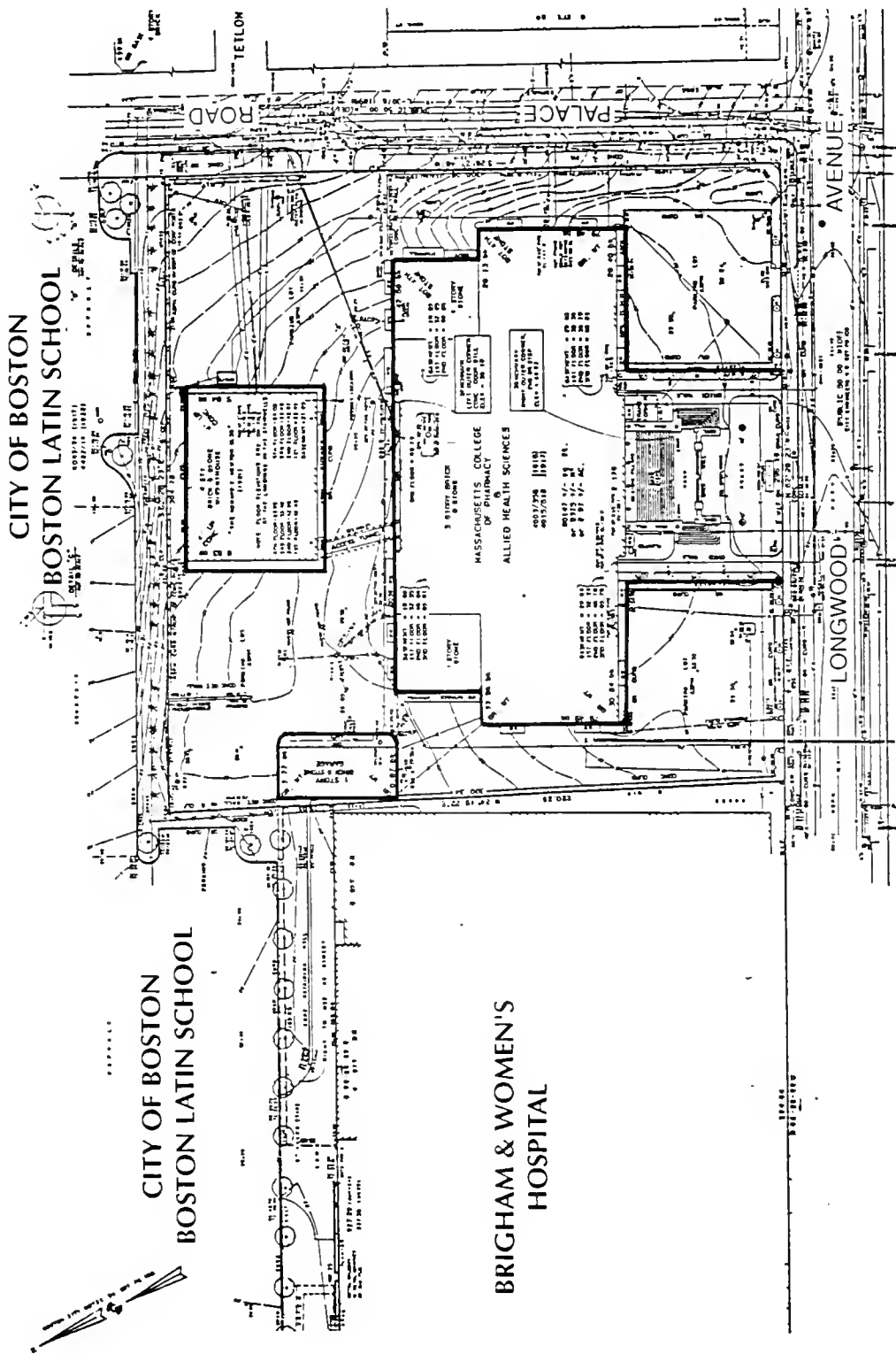


Exhibit 3.8
Proposed Site Access
Massachusetts College of Pharmacy and Allied Health Sciences



NOTES: Plan By: Gunther Engineering Inc., Land Surveyor

Exhibit 3.9
Site Survey Plan
Massachusetts College of Pharmacy and Allied Health Sciences



4. ANALYSIS OF MASTER PLAN: EFFECTS AND MITIGATION

4. ANALYSIS OF MASTER PLAN: EFFECTS AND MITIGATION

4.1 Transportation Analysis

The College has evaluated the effects associated with the Project described in this Master Plan on the local transportation network. The results of this evaluation, which responds to Scopes issued by the Boston Transportation Department (BTD) and the Executive Office of Environmental Affairs' MEPA Unit, are set forth below. The analysis includes the following:

- A definition of existing traffic, transit, and parking conditions.
- An evaluation of the Project's long-term effects on traffic, transit, and pedestrian activities as well as on parking demand, in the context of the College's future transportation policies and goals.
- Identification of appropriate measures to mitigate Project effects, including long-term Project monitoring.
- An evaluation of the Project's short-term effects on traffic related to construction activity.

Additional detail on the transportation analysis, effect, and mitigation strategies is provided within the FPIR/FEIR submitted by the College for the Project.

4.1.1 Existing Conditions

Traffic Study Area

The College is located along the eastern edge of the LMA. The Site and its relationship to the surrounding street system are shown in Exhibit 4.1. A total of four (4) major arterials (Huntington Avenue, Longwood Avenue, Brookline Avenue, and the Fenway) and local streets (Palace Road and Avenue Louis Pasteur) serve the Site.

Major Roadway Characteristics

Longwood Avenue is a bi-directional (east-west) arterial roadway, 42 to 34 feet wide consisting of one westbound and one eastbound lane* which begins at Huntington Avenue and travels westerly through Brookline. Longwood Avenue provides primary access to not only the College, but to Children's

* Longwood Avenue widens to 42 feet (from Brookline Avenue to Binney Street), but then narrows to 34 feet at Blackfan Street. It has an exclusive left-turn lane eastbound and westbound at Brookline Avenue.

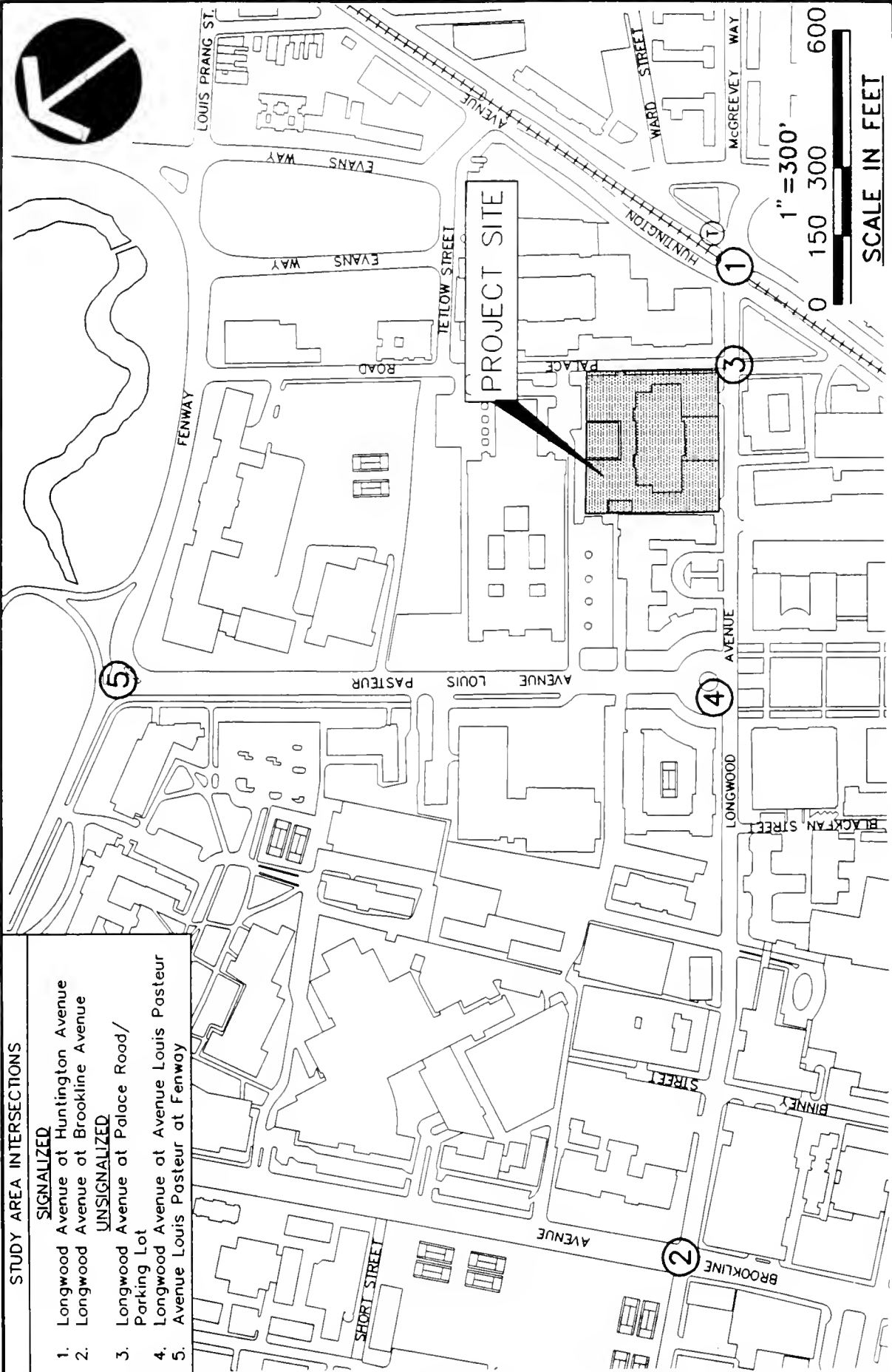


Exhibit 4.1
Study Area
Massachusetts College of Pharmacy and Allied Health Sciences

Hospital Medical Center and the Harvard Medical School. Longwood Avenue intersects Palace Road and Avenue Louis Pasteur at two unsignalized intersections to the west and east, respectively, of the Site. Both of these local collector roadways connect Longwood Avenue to the Fenway.

Further west, Longwood Avenue meets Brookline Avenue at a signalized intersection. Brookline Avenue is a major (north-south) arterial roadway which carries heavy commuter traffic during the morning and evening peak periods. Brookline Avenue also carries a substantial amount of patients, visitors and service-related traffic to LMA hospitals throughout a typical weekday. Brookline Avenue is approximately 60 feet wide consisting of two (2) northbound, two (2) southbound lanes, and a center two-way left-turn lane.

Huntington Avenue is also a major (north-south) arterial roadway which carries heavy commuter traffic during the morning and evening peak hours. The MBTA Arborway line runs in both directions along Huntington Avenue with the closest T-stop to the College at the intersection of Longwood Avenue and Huntington Avenue. Huntington Avenue has two travel lanes in each direction on either side of the MBTA dedicated median. Parking is not allowed at the intersections where left-turning lanes exist, but metered parking is present in many locations along both Longwood and Huntington Avenues.

Avenue Louis Pasteur is a major connector between Longwood Avenue and the Fenway, and serves the Boston Latin High School. A number of off-street parking areas are accessed from Avenue Louis Pasteur, including those at Boston Latin, Simmons College and Emmanuel College. Avenue Louis Pasteur contains one travel lane in each direction.

Palace Road extends between Longwood Avenue and the Fenway. Palace Road provides access to the College. It is one-way north from Longwood Avenue with one northbound lane and one parking lane. Parking is allowed at meters located along the westerly sidewalk; parking is prohibited on the easterly side.

1993 Existing Traffic Volumes

Traffic volume data for the five (5) study area intersections was obtained from two sources. Data for the three unsignalized intersections were obtained by HMM through manual traffic counts conducted on Thursday, February 4, 1993 and Wednesday, February 10, 1993. These turning movement counts were taken during the 7:00 to 9:00 AM, and 4:00 to 6:00 PM weekday peak hours. Manual counts for the two signalized intersections were conducted by Vanasse

Hangen Brustlin (VHB) for MASCO in 1991. The traffic engineers adjusted and balanced the intersection volumes where possible. Adjacent intersections having numerous midblock driveways or garage entrances were not balanced. This method of balancing was used so that vehicle flows from one location to the next could be verified. The following Exhibits 4.2 and 4.3 show the AM and PM 1993 existing traffic volume flow.

1993 Existing Traffic Operations

Traffic operations were analyzed according to standard procedures and practices outlined in the 1985 Highway Capacity Manual. The efficiency of traffic operations at a location (or changes in traffic operations), is measured in terms of Level of Service (LOS). The LOS refers to the quality of traffic flow along roadways and at intersections. It is described in terms of Levels A through F; where A represents the best possible free-flow traffic conditions, and F represents congested, forced-flow or failing conditions.

At signalized intersections, LOS is defined in terms of average approach delays. For unsignalized intersections, reserve capacities are used to determine LOS. These measures are discussed briefly below, and Table 4.1 summarizes their interrelationships. Average delay measures the mean stopped delay experienced by vehicles entering a signalized intersection during the peak hour period. Average delay is measured for each individual approach and for the intersection as a whole. The LOS stated deteriorates with increasing average delays.

At unsignalized intersections, LOS is defined in terms of reserve capacity. The reserve capacity is the unused capacity of (an) approach lane(s) to an intersection. This measure, defined as passenger car per hour, indicates how many more vehicles would be required to bring the intersection approach lane(s) to capacity. The LOS stated deteriorates with reducing reserve capacity values.

Table 4.2 shows the 1993 existing levels of service for the five (5) study area intersections.

During the morning peak hour, Longwood Avenue's intersection with Brookline Avenue operates at an acceptable LOS C. By comparison, Longwood Avenue's intersection with Huntington Avenue operates under LOS F conditions, with particularly long delays experienced (over three minutes). At the three unsignalized intersections, all but one approach operates at LOS C or better. At this approach, the left turns from Avenue Louis Pasteur onto Longwood Avenue operate at LOS E during the AM peak hour.

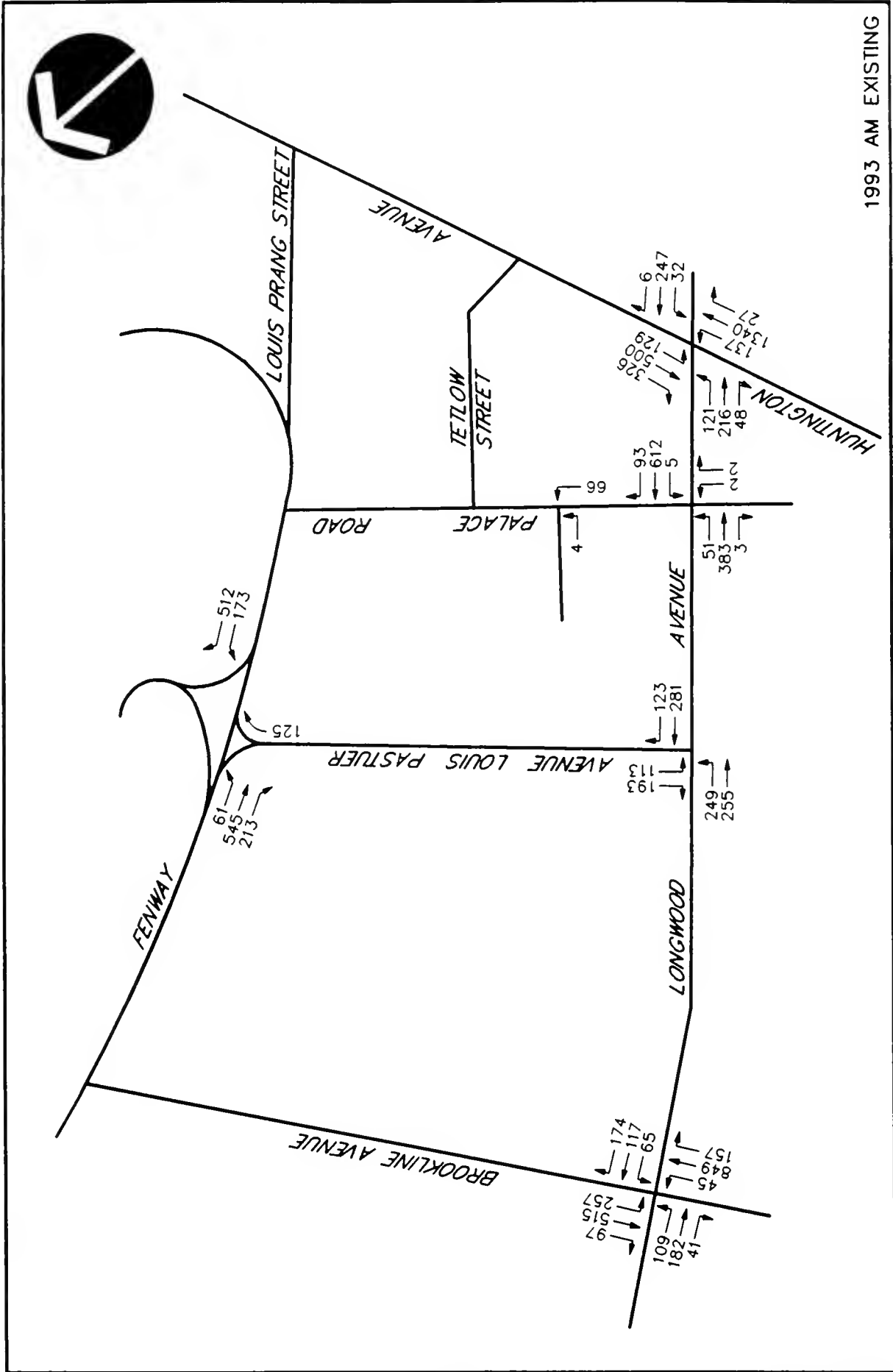
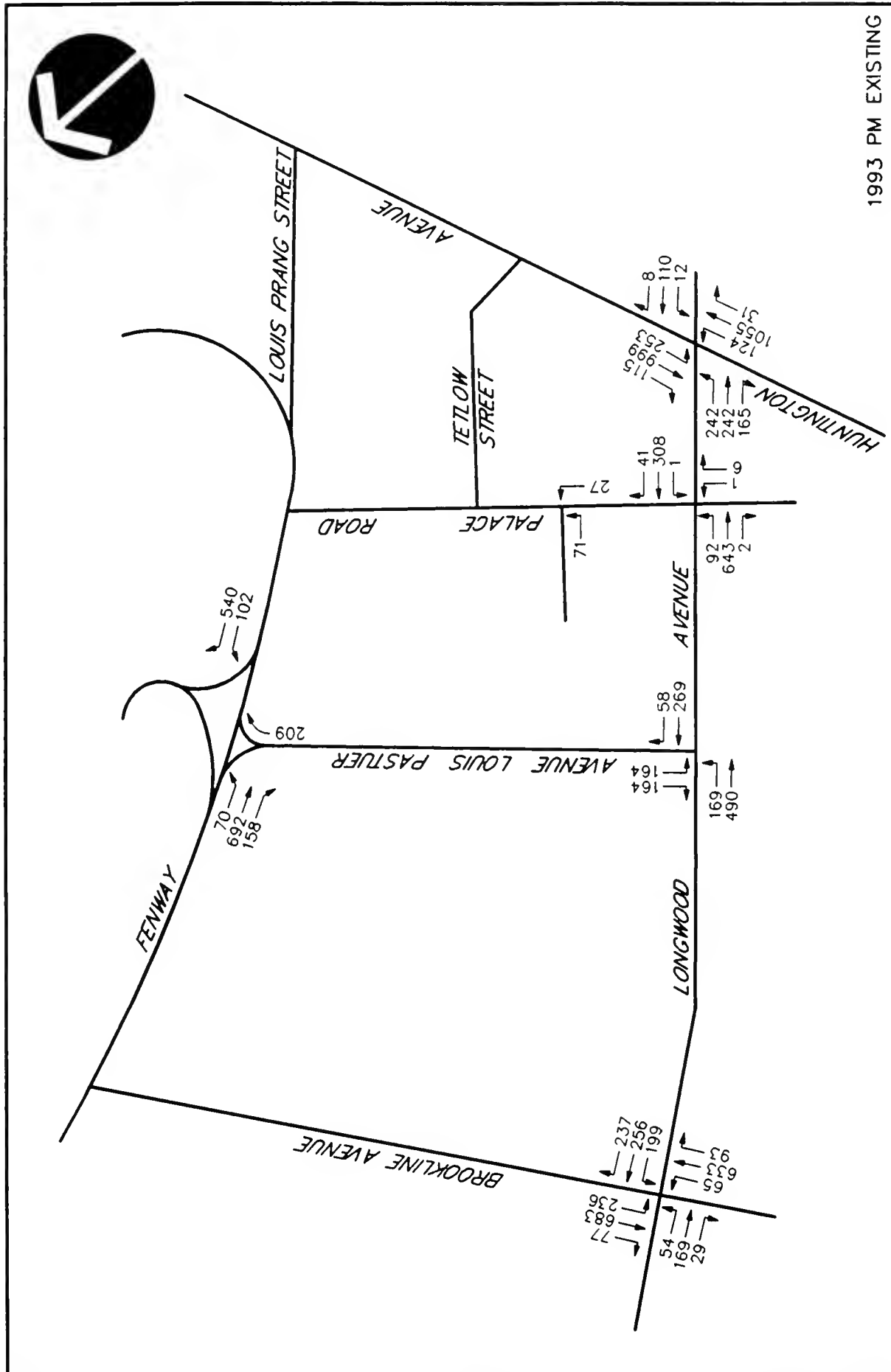


Exhibit 4.2
1993 Existing AM Peak Hour Traffic Volumes
Massachusetts College of Pharmacy and Allied Health Sciences



1993 PM EXISTING

Exhibit 4.3
1993 Existing PM Peak Hour Traffic Volumes
Massachusetts College of Pharmacy and Allied Health Sciences

Table 4-1: Level of Service (LOS) Designations*

| <u>Category</u> | <u>Description</u> | <u>Delay Range**</u> | | <u>Reserve***</u> |
|-----------------|---|----------------------|------------|-----------------------|
| | | <u>(Seconds</u> | <u>Per</u> | <u>Capacity</u> |
| | | <u>Vehicle)</u> | | <u>(Passenger</u> |
| | | | | <u>Cars Per Hour)</u> |
| LOS A | Describes a condition of free flow, with low volumes and relatively high speeds. There is little or no reduction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds. Little or no delays result for side street motorists. | 0.00-05.0 | | 400 |
| LOS B | Describes a condition of stable flow, with desired operating speeds relatively unaffected, but with a slight deterioration of maneuverability within the traffic stream. Side street motorists experience short delays. | 5.1-15.0 | | 300-399 |
| LOS C | Describes a condition still representing stable flow, but speeds and maneuverability begin to be restricted. The general level of comfort begins to deteriorate noticeably at this level. Motorists entering from side streets experience average delays. | 15.1-25.0 | | 200-299 |
| LOS D | Describes a high-density traffic condition approaching unstable flow. Speeds and maneuverability become more seriously restricted, and the driver experiences a poor level of comfort. Side street motorists may experience long delays. | 25.1-40.0 | | 100-199 |
| LOS E | Represents conditions at or near the capacity of the facility. Flow is usually unstable, and freedom to maneuver within the traffic stream becomes extremely difficult. Very long delays may result for side street motorists. | 40.1-60.0 | | 0-99 |
| LOS F | Describes forced flow or breakdown conditions with queuing along critical approaches. Operating conditions are highly unstable as characterized by erratic vehicle movements along each approach. | 60.1 or greater | | N/A |

* Source: "Highway Capacity Manual," *Transportation Research Board Special Report 209*; National Research Council, 1985.

** Delay ranges relate to the mean stopped delay incurred by all vehicles entering the intersection and do not consider the effects of traffic signal coordination. This criteria is intended for use in the evaluation of signalized intersections.

*** Reserve capacity refers to the unused capacity of the minor approach, on a per lane basis. This criteria is limited to use in the evaluation of unsignalized intersections.

Table 4.2: 1993 Existing Peak Hour Level of Service

Signalized Intersections

| No. | Location | 1993 Existing | | | |
|-----|-----------------------------------|---------------|-------|---------|-------|
| | | AM Peak | | PM Peak | |
| | | LOS | Delay | LOS | Delay |
| 1 | Longwood Avenue/Huntington Avenue | F | * | F | 146.6 |
| 2 | Longwood Avenue/Brookline Avenue | C | 24.9 | D | 25.9 |

* Delay exceeds three minutes

Unsignalized Intersections

| No. | Location | 1993 Existing | | | |
|-----|--|---------------|------|---------|------|
| | | AM Peak | | PM Peak | |
| | | LOS | RC | LOS | RC |
| 3 | Longwood Avenue/Palace Rd./Parking Lot | | | | |
| | - Left from Longwood Avenue Eastbound | A | 523 | A | 822 |
| | - Left from Longwood Avenue Westbound | A | 891 | A | 634 |
| | - All moves from Parking Lot | C | 266 | A | 566 |
| 4 | Longwood Avenue/Avenue Louis Pasteur | | | | |
| | - Left from Longwood Avenue Westbound | A | 600 | A | 764 |
| | - Left from Avenue Louis Pasteur | E | 79 | F | 0 |
| | - Right from Avenue Louis Pasteur | A | 579 | A | 659 |
| 5 | Avenue Louis Pasteur/Fenway Drive | | | | |
| | - Left from Fenway Drive Westbound | A | 1132 | A | 1123 |
| | - Left from Fenway Drive Eastbound | A | 433 | A | 428 |
| | - Right from Avenue Louis Pasteur | A | 814 | A | 638 |

During the afternoon peak hour, delay times at Longwood Avenue's intersection with Brookline Avenue decreases to LOS D, while LOS at the Longwood Avenue/Huntington Avenue intersection remains at LOS F. Left turns onto Longwood Avenue from Avenue Louis Pasteur declines from LOS E to LOS F, with all other unsignalized movements continuing to operate at LOS C or better in the afternoon.

Existing Trip Characteristics

Faculty/Staff Trip Characteristics - The current staff level at the College is 150 on-campus employees. Based upon a travel survey conducted by HMM Associates in February 1993, approximately 78% of the college's employees currently drive to work (although not all arrive during the morning peak hour or depart at the afternoon peak hour), while the remaining use alternative transportation such as MBTA surface transit and bus services (13%), walking (5%), and other (4%).

Student Trip Characteristics - According to the College Administration, approximately 575 students are found on campus on any given day. Based upon the HMM Associates' 1993 travel survey, approximately 70% of the College's students use alternatives form of transportation, with 42% walking or bicycling to school. The remaining 30 percent of students drive to school.

Parking

A total of 150 surface parking spaces are currently located on the Site. Approximately fifty (50) spaces are located in front of the White Building. Another fifteen (15) spaces are located on the west side of the Garage/Office Building adjacent to the LMRC. The remaining eighty-five (85) spaces are located to the rear of the White Building.

A 12-hour survey (6:00 AM to 6:00 PM) was conducted on Thursday, February 18, 1993, and the following information was calculated. A parking demand bar chart is shown on Exhibit 4.4.

- The parking capacity on the Site is 150 spaces. By 7:00 AM, 31% of the total spaces are occupied. Peak occupancy occurs at 11:00 AM, when 84% of the spaces are occupied.
- 50 of the 150 spaces are reserved for students.

MAXIMUM OCCUPANCY = 150 PARKING SPACES

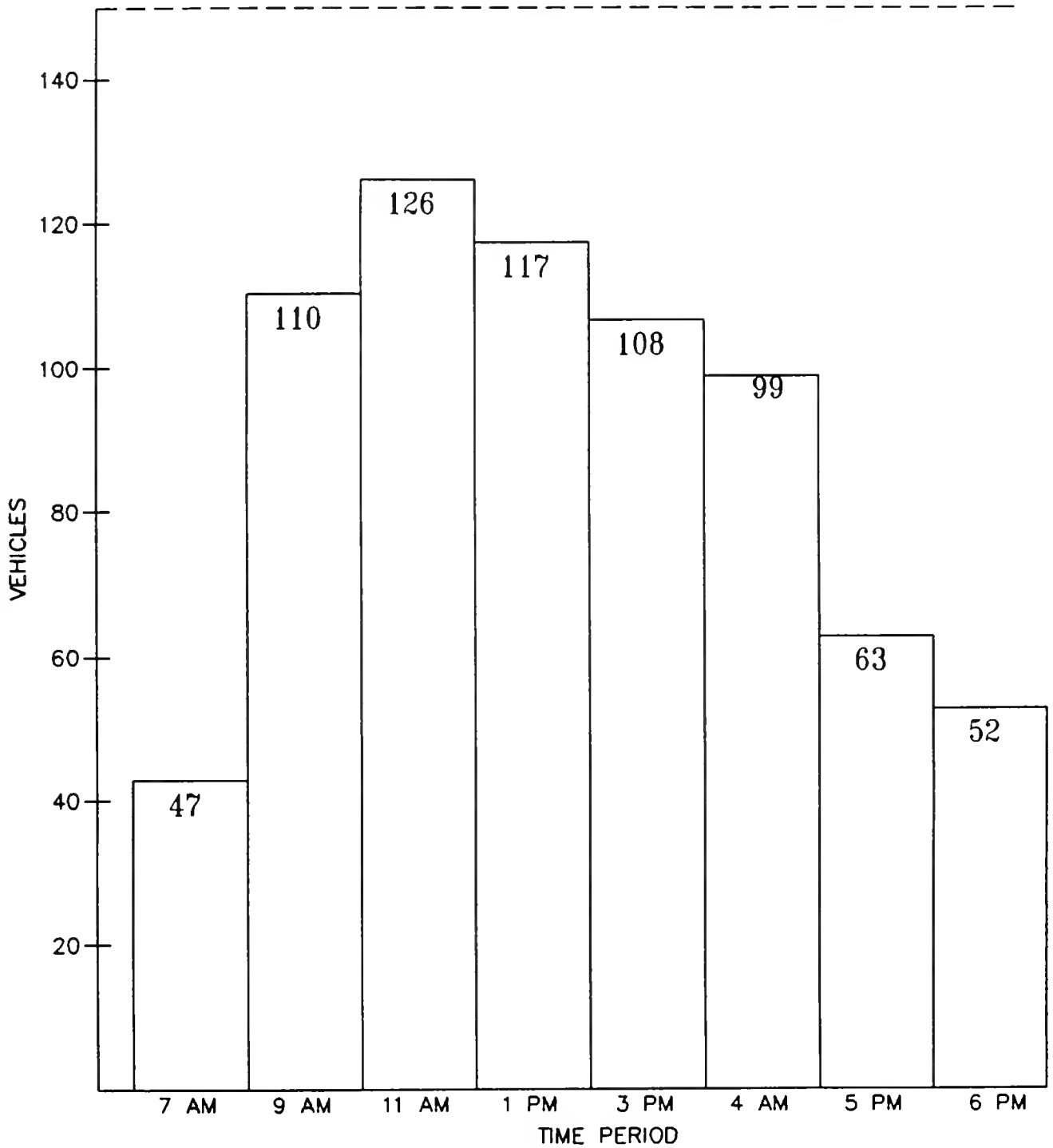


Exhibit 4.4

Existing Parking Demand at the College's Parking Lots
Massachusetts College of Pharmacy and Allied Health Sciences

- The parking space turnover (utilization) for all three lots averaged 1.5 vehicles per space. However, in order to provide a conservative estimate of demand, a rate of 1.03, the observed rate for the Longwood Avenue lots has been used for faculty and staff assignments. A rate of 1.89, the Palace Road rate, has been used for students. Table 4.3 displays the resulting existing demand, and current shortfall of 80 spaces. This shortfall is met by use of both off-street and on-street spaces in or near the LMA.
- The single-lane entry, exit driveway at the lot operates at a very good level of service due to the guard's ability to direct traffic flow in and out, as well as minimum demand.

Transit

The Massachusetts Bay Transportation Authority (MBTA) provides two branches of the rapid transit system into the LMA. These two branches join with others to form the Green Line just outside of Copley Square. The Green Line Station at the corner of Huntington Avenue and Longwood Avenue serves the majority of the College's commuters utilizing rapid transit. The College is also served by three MBTA bus routes and by MetroBus, a subsidiary of MASCO. These routes connect to neighborhoods and communities outside of the LMA.

The following three MBTA bus routes serve the College:

- **Bus Route 39:** Provides service between Forest Hill Station and Back Bay Station via Huntington Avenue. Stops on Huntington Avenue near the College are made approximately every 5 minutes during the peak periods.
- **Bus Route 47:** Provides service between Central Station and Andrew Station via Longwood Avenue. Stops are made approximately every 20 minutes at the College's front door.
- **Bus Route 8:** Provides service between Harbor Point/UMass and Kenmore Station via Dudley Square and the South End Medical Area. Stops are made approximately every 20 minutes during peak periods, near the college.

Table 4.3: Existing Peak Parking Generation

| <u>Full-Time Employees</u> | <u>Auto Mode Split</u> | <u>Auto Occupancy</u> | <u>Daily Autos (One-Way)</u> | <u>Turnover Rate (Utilization)</u> | <u>Employee Parking Demand (Long-Term)</u> |
|----------------------------|------------------------|-----------------------|------------------------------|------------------------------------|--|
| 150 | 78% | 1.0 | 117 | 1.03 | 114 spaces |

| <u>On-Campus Students</u> | <u>Auto Mode Split</u> | <u>Auto Occupancy</u> | <u>Daily Autos (One-Way)</u> | <u>Turnover Rate (Utilization) (Long-Term)</u> | <u>Student Parking Demand</u> |
|---------------------------|------------------------|-----------------------|------------------------------|--|-------------------------------|
| 575 | 30% | 1.0 | 173 | 1.89 | 92 spaces |

| | | | | |
|--------------------------------|---|-------------------------------|---|-----------------------------|
| <u>Employee Parking Demand</u> | + | <u>Student Parking Demand</u> | = | <u>Total Parking Demand</u> |
| 114 spaces | | 92 spaces | | 206 spaces |

The MetroBus provides bus routes to communities outside the LMA for members of Medical Area Institutions. MetroBus Route M2, which serves Harvard Square and other Cambridge points along Massachusetts Avenue, provides service near the College. The M2 route, not limited to peak periods, operates every 10 minutes at rush hour, every 20 to 30 minutes at midday, and every hour at night and on Saturdays.

4.1.2 1998 Conditions

Trip Generation

The Project described in this Master Plan results in a consolidation of the College's existing uses onto its Campus. The only increase in use will be due to the relocation of the BWH's Channing Laboratory, from its present location at the former Angell Memorial Building to the College's new Research Facility. The relocation of the Laboratory may result in an increase in trips to the Site, although total Channing Laboratory trips to the LMA would remain the same.

In order to determine trip generation and characteristics from the Project, actual trip rates and modal share information from the College and the Channing Laboratory has been collected. To properly quantify the actual vehicular traffic volumes, the average vehicle occupancy rate, as well as transit and pedestrian trips, must also be accounted for.

In order to determine the modal share of the Channing Laboratory employees, BWH conducted its own employee travel survey. According to BWH, as shown in Table 4.4, 63% of the Channing Laboratory employees commute to work by a mode other than private automobile. Table 4.5 displays the net trip generation.

Table 4.4: Channing Laboratory Modal Share

| <u>MODE</u> | <u>Researchers</u> |
|--------------|--------------------|
| Auto | 34.0% |
| Transit | 48.0% |
| MASCO | 4.0% |
| Walk/Bicycle | 11.0% |
| Other | <u>3.0%</u> |
| TOTAL | 100.0% |

Based on the modal share discussed previously, and the anticipated increases in student and faculty population, an additional 170 trips or 85 vehicles will be generated per day as shown in Table 4.5.

Trip Distribution

In order to show the effects of the new trips resulting from the proposed Project on the local street system, vehicle trips are distributed in the directions of origin/destination and assigned to the actual roadways. These assigned volumes, when added to the existing and background traffic, form the input for calculation for all LOS computations. The assignments were provided by MASCO and are based upon 1990 LMA employment data.

Trip Assignment

Exhibits 4.5 and 4.6 show the traffic flow maps for the Project-generated vehicle trips for the AM and PM peak hours. This analysis is conservative in that it assumes that all new trips have been assigned to the Site.

1998 Build Traffic Volumes

Exhibits 4.7 and 4.8 show the 1998 Build traffic volumes (1998 background, other developments and Site trips) for the AM and PM peak hours.

1998 Build Traffic Operations

A comparison of delay times and reserve capacities under the No-Build and Build conditions (Table 4.6) show the Project has little effect on overall operating conditions at the analyzed intersections. The intersection of Longwood Avenue at Huntington Avenue will remain at LOS F for both peak hours and the left turns onto Longwood Avenue from Avenue Louis Pasteur will remain at LOS E and LOS F for the AM and PM peak hours, respectively, despite the improvements proposed by the Beth Israel Hospital. The remaining intersections will operate at LOS C or better under 1998 build conditions.

It should be noted that while the Project relocates existing dormitory space and the Channing Laboratory onto the Site, no reduction in background trips has been made. This assumes a continued use of the Channing Laboratory site for medical research/institutional uses, as the future trips are consistent with existing patterns.

Table 4.5: Person-Trip Increase by Mode, 1998

AM PEAK HOUR

| | <u>College</u> | | <u>Channing</u> |
|--------------|--------------------------------|-----------------|-------------------|
| | <u>Faculty/Administration*</u> | <u>Students</u> | <u>Laboratory</u> |
| Auto | 3 | 6 | 25 |
| Transit | 1 | 4 | 41 |
| Walk/Bicycle | 1 | 9 | 9 |
| MASCO | 0 | 0 | 4 |
| Other | <u>0</u> | <u>1</u> | <u>5</u> |
| TOTAL | 5 | 20 | 84 |

PM PEAK HOUR

| | <u>College</u> | | <u>Channing</u> |
|--------------|--------------------------------|-----------------|-------------------|
| | <u>Faculty/Administration*</u> | <u>Students</u> | <u>Laboratory</u> |
| Auto | 2 | 3 | 13 |
| Transit | 0 | 3 | 19 |
| Walk/Bicycle | 1 | 5 | 4 |
| MASCO | 0 | 0 | 2 |
| Other | <u>0</u> | <u>1</u> | <u>2</u> |
| TOTAL | 3 | 12 | 40 |

TOTAL DAILY TRIPS

| | <u>College</u> | | <u>Channing</u> |
|--------------|--------------------------------|-----------------|-------------------|
| | <u>Faculty/Administration*</u> | <u>Students</u> | <u>Laboratory</u> |
| Auto | 16 | 30 | 124 |
| Transit | 2 | 22 | 192 |
| Walk/Bicycle | 2 | 42 | 44 |
| MASCO | 0 | 0 | 16 |
| Other | <u>0</u> | <u>6</u> | <u>24</u> |
| TOTAL | 20 | 100 | 400 |

* According to the College's Dean, no more than 10 of the new faculty and staff will be on campus on any given day. These trips represent that assumption.

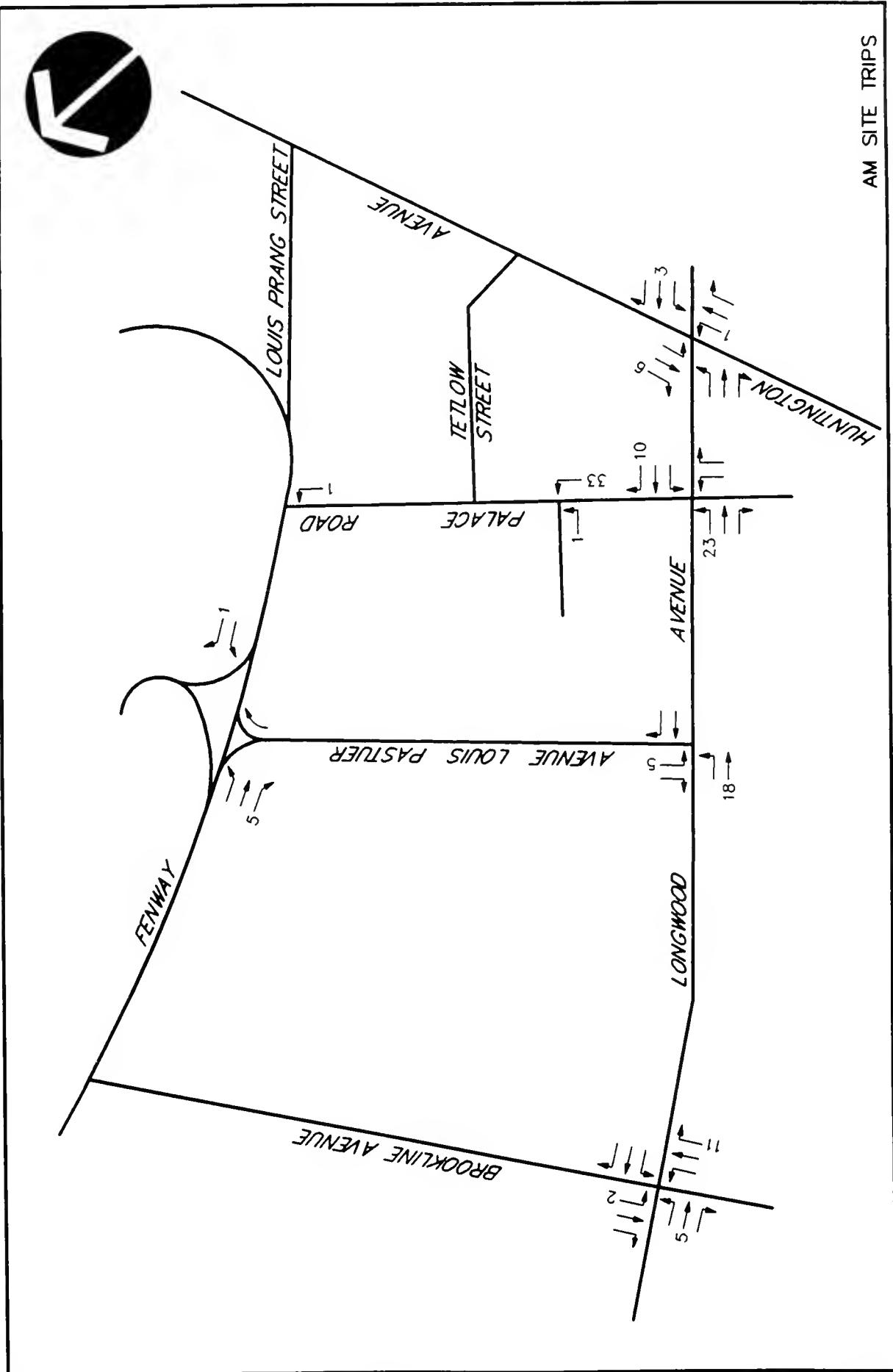
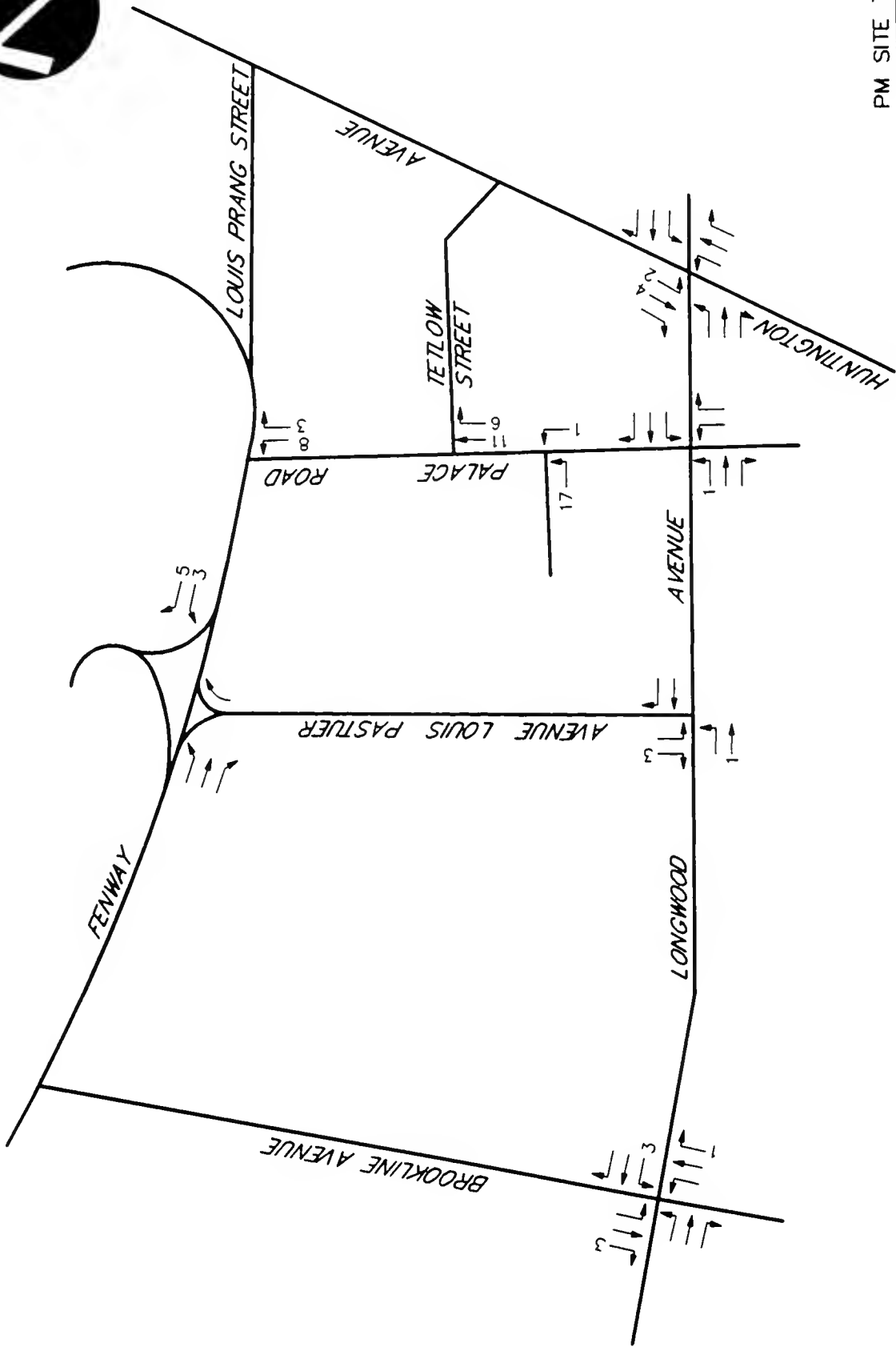


Exhibit 4.5
1998 Site Generated AM Peak Hour Volumes
Massachusetts College of Pharmacy and Allied Health Sciences



PM SITE TRIPS

Exhibit 4.6
1998 Site Generated PM Peak Hour Volumes
Massachusetts College of Pharmacy and Allied Health Sciences

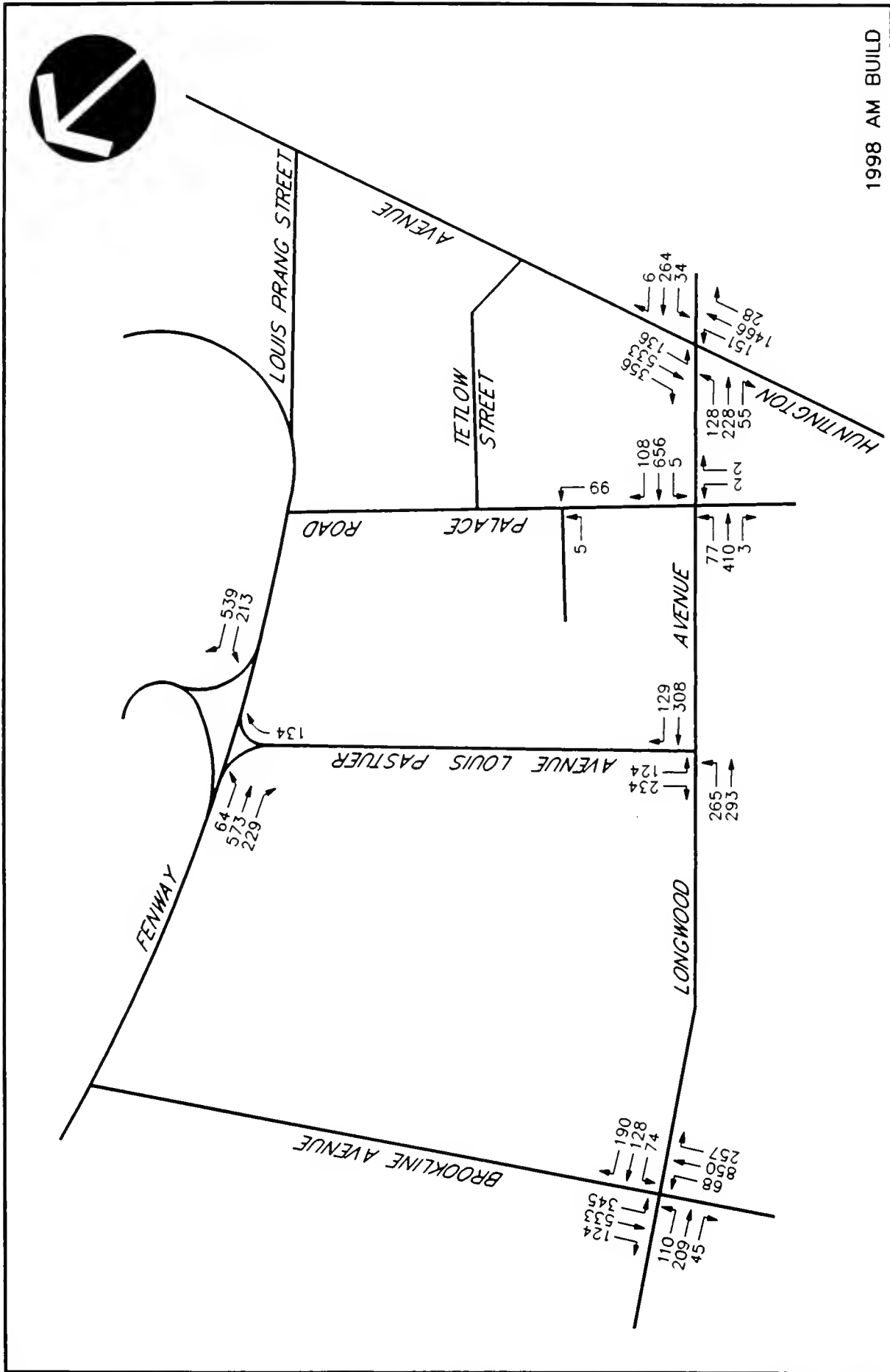
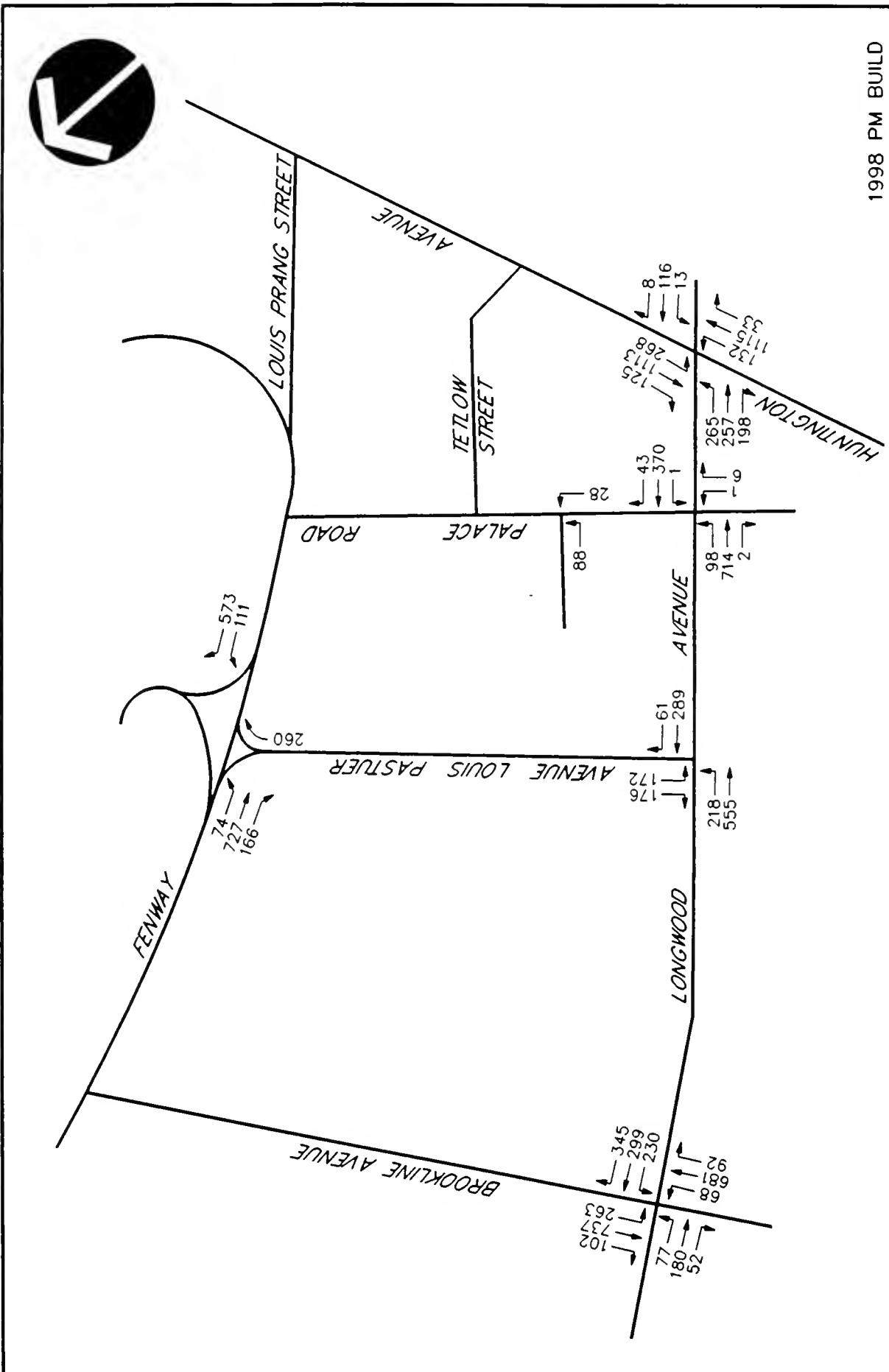


Exhibit 4.7
1998 Build AM Peak Hour Volumes
Massachusetts College of Pharmacy and Allied Health Sciences



1998 PM BUILD

Exhibit 4.8
1998 Build PM Peak Hour Volumes
Massachusetts College of Pharmacy and Allied Health Sciences

Table 4.6: 1993 Existing, 1998 No-Build and Build Peak Hour Level of Service

| Signalized Intersections | | | | | | | | | | | | | |
|-------------------------------|--|---------------|-------|---------|-------|---------------|-------|---------|-------|------------|-------|---------|-------|
| No | Location | 1993 Existing | | | | 1998 No Build | | | | 1998 Build | | | |
| | | AM Peak | | PM Peak | | AM Peak | | PM Peak | | AM Peak | | PM Peak | |
| | | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay |
| 1 | Longwood Avenue/Huntington Avenue | F | * | F | 146.6 | F | * | F | * | F | INF | F | * |
| 2 | Longwood Avenue/Brookline Avenue | C | 24.9 | D | 25.9 | C | 20.9 | C | 23.1 | C | 21.4 | C | 23.1 |
| * Delay exceeds three minutes | | | | | | | | | | | | | |
| Unsignalized Intersections | | | | | | | | | | | | | |
| No | Location | 1993 Existing | | | | 1998 No Build | | | | 1998 Build | | | |
| | | AM Peak | | PM Peak | | AM Peak | | PM Peak | | AM Peak | | PM Peak | |
| | | LOS | RC | LOS | RC | LOS | RC | LOS | RC | LOS | RC | LOS | RC |
| 3 | Longwood Avenue/Palace Rd./Parking Lot | | | | | | | | | | | | |
| | Left from Longwood Avenue Eastbound | A | 523 | A | 622 | A | 484 | A | 793 | A | 452 | A | 792 |
| | Left from Longwood Avenue Westbound | A | 891 | A | 634 | A | 867 | A | 581 | A | 867 | A | 581 |
| | All moves from Parking Lot | C | 266 | A | 566 | C | 230 | A | 504 | C | 209 | A | 504 |
| 4 | Longwood Avenue/Avenue Louis Pasteur | | | | | | | | | | | | |
| | Left from Longwood Avenue Westbound | A | 600 | A | 764 | A | 552 | A | 686 | A | 552 | A | 686 |
| | Left from Avenue Louis Pasteur | E | 79 | F | 0 | E | 40 | F | -67 | E | 28 | F | -67 |
| | Right from Avenue Louis Pasteur | A | 579 | A | 659 | A | 497 | A | 627 | A | 497 | A | 623 |
| 5 | Avenue Louis Pasteur/Fenway Drive | | | | | | | | | | | | |
| | Left from Fenway Drive Westbound | A | 1132 | A | 1123 | A | 1128 | A | 1118 | A | 1128 | A | 1118 |
| | Left from Fenway Drive Eastbound | A | 433 | A | 428 | B | 362 | B | 396 | B | 362 | B | 395 |
| | Right from Avenue Louis Pasteur | A | 814 | A | 638 | A | 787 | A | 550 | A | 787 | A | 550 |

1998 Build Parking Conditions

Table 4.5 indicates that the Project will result in minimal increases in new trips to the LMA. However, in order to meet this additional, though modest demand generated by the Project, it will be necessary to adopt appropriate mitigation measures, as outlined in subsection 4.1.3, Transportation Mitigation. In addition, the College will cooperate with MASCO's efforts to identify additional parking outside the LMA.

Transit

As shown in Table 4.5, the Project will increase transit use by approximately 216 passenger trips per day in 1998. This reflects a modest increase in ridership which should easily be absorbed by the MBTA.

Pedestrian Effects

Since the College generates a high student pedestrian rate, it is essential to provide an adequate pedestrian system to and from the College. The pedestrian traffic within the LMA not only consists of people walking to work, schools, and medical facilities, but transit commuters also must walk to/from the T-stops. Sidewalks and crosswalks are an integral part of the journey for people who park off-site, travel by public transportation, or make the entire trip by walking.

The pedestrian system in the LMA is well defined, with sidewalks on both sides of the streets, crosswalks at most intersections, and exclusive pedestrian phases at all traffic signals. The major unsignalized pedestrian crossings are midblock at Palace Road, Longwood Avenue, and along Avenue Louis Pasteur.

Pedestrian volumes were observed at intersections in the vicinity of the College in May during the morning peak, mid-day, and evening peak hours. Evaluation of this data concluded that the morning peak hour at Huntington Avenue and Longwood Avenue, and at Longwood Avenue and Palace Road occurs between 7:15 and 8:15 AM. At Palace Road and Tetlow Street, the morning peak hour occurs between 7:30 and 8:30 AM, and at Avenue Louis Pasteur and Longwood Avenue between 8:00 AM and 9:00 AM. The mid-day peak hour at the intersections of Huntington Avenue and Longwood Avenue, Longwood Avenue and Palace Road and Palace Road and Tetlow Street occurs between 1:45 PM/2:00 PM to 2:45 PM/3:00 PM. The mid-day peak at Avenue Louis Pasteur and Longwood Avenue is between 12:45 PM to 1:45 PM. The PM peak hour at all four intersections occurs between 3:00 PM/3:15 PM to 4:00 PM/4:15 PM.

Generally, pedestrian volumes were higher in the morning peak period due to higher concentration of students going to Boston Latin School and employees commuting to work. This volume, however, remains high throughout the day because once people arrive at the LMA, there is a considerable amount of travel between institutions and buildings within the area. The pedestrian walkway behind the College serves a heavy volume of pedestrian traffic related to the Boston Latin School, particularly during the morning peak hour, and when School classes end at 1:45 PM.

A Construction Management Plan (CMP), discussed below, will address important pedestrian issues during the construction period.

Construction Management

The College and BTD will negotiate a CMP which will address pertinent construction issues. The CMP will include the following measures:

- Secure staging, fencing and bracing will be provided to protect nearby pedestrian traffic.
- Appropriate pedestrian walkways will be covered at nearby construction locations.
- All staging areas with construction materials will be located on private property.
- The removal of construction material and equipment will be staggered over the course of the weekday.
- Designated truck routes for the removal of construction material and equipment will be clearly defined.
- The work hours of construction will be during the off peak hours of commuter traffic, generally 7:00 A.M. to 3:30 P.M.

4.1.3 Transportation Mitigation

Future Parking Demand/Parking Policy

According to the College's facility planners, the College is projected to employ an additional 20 full-time faculty and staff members by 1998. Using the same employee trip modes as the 1993 projections, the demand for daily parking spaces will increase by 71 vehicles, assuming the assignment of 20 Channing Laboratory employees to the Garage.

It is the stated policy of the College to achieve the following long-term parking goals:

- The total number of available on-campus parking spaces will be reduced by 26-31 spaces. In addition, 20 of these spaces will be assigned to Channing employees;
- Faculty, staff, visitors and some students are to be provided limited access to spaces on the College Campus;
- Reduce single occupied vehicle use by employees by the implementation of an aggressive transportation;
- Overall reduction in College associated parking demand by implementation of several demand management strategies, including work with MASCO to identify additional parking outside the LMA.

To reduce overall employee parking demand, the College will increase the cost of parking, implement a program to maximize vanpool ridership, thereby leading to reductions in use of single-passenger vehicles, and adopt policies and management incentives discussed below. By 1998, the College plans to reduce single occupant vehicle use from its current 78% to 30%.

Improvements

The College will cooperate with MASCO in its ongoing efforts to improve signal timing and traffic operations along Longwood Avenue and in the LMA. Such improvements could lead to improved LOS conditions at the two signalized intersections. Of particular importance will be efforts to reduce delay at the Longwood Avenue/Huntington Avenue intersection.

Demand Management Incentives

Educate Employees and Students - The College will educate each employee and student so that all prospective and current users of the Site understand each of the commuter options and its benefits and costs. This process helps inform employees and students about driving alone versus other commuting modes.

- A Commuter Services coordinator will be assigned by the College to provide literature to drivers on mass transit fares, schedules, and routes; ride sharing and MASCO CommuteWorks information; T-pass employee/student subsidy incentives; and lists of carpools and vanpools

looking for riders.

- The College will publicize to new employees/students (and periodically to all employees/students) information on T-passes, MBTA routes and fares, lists of carpools and vanpools looking for riders. This information will be published in the College's orientation materials for new/transfer students, new faculty and staff and in other brochures of wide distribution.
- The College will also cooperate with MASCO's CommuteWorks Program.

Promote Mass Transit - The College will institute a program to allow employees and students to purchase MBTA monthly T-passes. The College will implement a 15% subsidy toward the cost of employee T-passes. The College will discourage employees from driving alone by developing disincentives, such as raising parking rates.

Promote Ridesharing - MASCO's CommuteWorks agency utilizes the Ride Source computer program that enables employees/students to contact other LMA employees/students interested in sharing a ride to/from work. CommuteWorks provides registration cards, monthly computer matching services, and follow-up services to ensure easy transition from driving alone to carpool/vanpool mode. The College will work closely with CommuteWorks to increase ridesharing by employees. The College will set a goal of having 15% of its total employee base utilizing ridesharing, including vanpools.

Alternative Work Hours - The College allows employees to participate in flexible work hours to the maximum degree permitted by the nature of their work and the requirements for control. This option allows employees to select from numerous transit schedule times without being pressured to arrive at a specific time. Flexible work hours encourage employees to form carpools according to their schedules. By adjusting the arrival and departure times of employees, the area-wide vehicle congestion can be substantially reduced during the peak hours.

Student Parking - According to the Modal Share data, approximately 188 students can be expected to drive to school on a daily basis, resulting in a peak demand for 99 spaces, 50 of which are located on campus. Increasing the occupancy rate to 1.15 passengers per car will decrease short term demand by 13 spaces. In addition, illegal parking in the local neighborhood by students will be discouraged.

Encourage Walking/Cycling - Improved lighting and security in the LMA will encourage people to walk to work. A program to educate people on safe and convenient walking routes has been implemented, along with increased protection wherever and whenever feasible. In addition, the College will provide bike racks/cages for faculty and students. The goal is to have 10% of the work force walking and/or bicycling to work by 1998. Forty-two percent (42%) of the student body currently uses this form of transportation.

Parking Fee Structure - The College will initiate a parking fee structure for all spaces on campus as a result of the Development.

Conclusions

With the above measures in place, the College will experience a significant increase in transit ridership and vehicle occupancy rates. The results (shown in Table 4.7) is a decrease in parking demand of 80 spaces, leaving a shortfall of 78 spaces, 2 less than the current shortfall. Since this is still a shortfall, the College's will continue to reduce demand through its policy to students from parking in local neighborhoods. Furthermore, the College will continue to work with MASCO in that organization's efforts to identify long-term off-campus parking opportunities outside the LMA. Further detail on transportation commitments is discussed within the FPIR/FEIR.

4.2 Summary of Environmental Effects

The following summarizes the anticipated environmental effects from the Project. (A full discussion of these environmental effects is contained in the DPIR/DEIR and FPIR/FEIR for the Project.)

4.2.1 Wind

The Project is not expected to have environmental effects on pedestrian level winds away from the Site, but will increase winds somewhat in two areas near the Site. The two areas are: 1) Palace Road near the New Building's east corner for northeast winds; and 2) at the northwest end of the New Building near its north corner for both northwest and northeast winds.

Based on erosion wind tunnel testing, winds in the area around the Project's north corner will just be in the low end of Melbourne's Comfort Category (uncomfortable for walking). This area, however, is expected to see little, or no, pedestrian activity as it is not within a corridor linking site entrances and on-site parking areas or major offsite pedestrian ways. The wind conditions at the east corner of the Project are predicted in the upper end of Melbourne's Comfort Category 3 (acceptable for walking).

Table 4.7: Parking Generation
1993, 1998, 1998 (With Mitigation)

| <u>Year</u> | <u>Full-Time Employees</u> | <u>Auto Mode Split</u> | <u>Auto Occupancy</u> | <u>Daily Autos (One-Way)</u> | <u>Daily Turnover Rate (Utilization)</u> | <u>Employee Parking Demand (Long-Term)</u> |
|--------------------------|----------------------------|------------------------|-----------------------|------------------------------|--|--|
| 1993 | 150 | 78% | 1.0 | 117 | 1.03 | 114 |
| 1998 | 360 ¹ | 53% ² | 1.0 | 191 | 1.03 | 185 |
| Mit ³ 1998 | 360 | 39% | 1.15 | 122 | 1.03 | 118 |

| <u>Year</u> | <u>On-Campus Students</u> | <u>Auto Mode Split</u> | <u>Auto Occupancy</u> | <u>Daily Autos (One-Way)</u> | <u>Turnover Rate (Utilization)</u> | <u>Student Parking Demand</u> |
|--------------------------|---------------------------|------------------------|-----------------------|------------------------------|------------------------------------|-------------------------------|
| 1993 | 575 | 30% | 1.0 | 173 ⁴ | 1.89 | 92 |
| 1998 | 625 | 30% | 1.0 | 188 | 1.89 | 99 |
| Mit ³ 1998 | 625 | 30% | 1.15 | 163 | 1.89 | 86 |

| <u>Year</u> | <u>Employee Parking Demand</u> | | <u>Student Parking Demand</u> | | <u>Total Parking Demand</u> |
|--------------------------|--------------------------------|---|-------------------------------|---|-----------------------------|
| 1993 | 114 | + | 92 | = | 206 |
| 1998 | 185 | + | 99 | = | 284 |
| Mit ³ 1998 | 118 | + | 86 | = | 204 |

¹ Employees are 160 full-time College and 200 for Channing Laboratories in 1998.

² Modal Shares = 78% for College and 34% for Channing.

³ Proposed Mitigation includes auto modal share of 45% for College and increased auto occupancy of 1.15 for all users. The College is cooperating with MASCO to implement a trip reduction program. The elements of the program will include employee transit subsidies, implementation of parking fees and a commuter mobility program. In addition, the College will cooperate with MASCO's efforts to identify additional parking outside of the LMA, which will lead to further reductions in the parking demand.

⁴ Only a portion of theoretical number currently park on-campus.

4.2.2 Shadow

New shadows from the Project will be limited primarily to the walkway along the Boston Latin School to the north of the Site. Some additional shading occurs on the south facade of the Boston Latin School at the classrooms and the gymnasium. In the morning hours for all time periods except in December, new shadows do not reach the building; at 3:00 PM during all time periods, shadows fall primarily on the gymnasium portion of the Boston Latin School. New shading of sidewalks and along roadways at and around the Project Site is largely avoided.

4.2.3 Daylight

Daylight obstruction is unchanged from the Longwood Avenue viewpoint, remaining at the existing obstruction of 20% following construction of the New Building. There is a modest increase in daylight obstruction from the Palace Road viewpoint when compared to obstruction under existing conditions due to the Newton Building. The daylight obstruction at this viewpoint is 39% following construction of the New Building.

Daylight obstruction is increased from the viewpoint of the Boston Latin School walkway located north of the Site. The daylight obstruction is due in part to the reconfiguration of the New Building undertaken in order to minimize shadow effects on the Boston Latin School. Given the massing required for the programmatic objectives of the College, daylight obstruction at this viewpoint was unavoidable. Further setback of the rooftop mechanicals is not possible and even if this modification was feasible, minimal daylight obstruction improvement would occur.

4.2.4 Air Quality

An air quality analysis was conducted to evaluate motor vehicle emissions due to an increase in traffic generated by the Project once it is fully occupied. The analysis involved a microscale study designed to determine carbon monoxide ambient air concentrations at sensitive receptor locations around the Site (including the Boston Latin School and Palace Road) and signalized intersections experiencing the greatest congestion (i.e., Huntington Avenue/Longwood Avenue and Brookline Avenue/Longwood Avenue). This study was prepared according to a model protocol developed in consultation with the BRA and Massachusetts Department of Environmental Protection (DEP). The results of the study (even as revised based on DEP comments on the DPIR/DEIR) demonstrate that air quality standards for carbon monoxide (CO) will be maintained after the Project has been completed.

4.2.5 Water Quality

The Site is outside the 100-year floodplain of the Muddy River and the 100-foot buffer zone associated with wetland resources. The Site is currently fully built up or paved with existing buildings and parking areas. The Project will improve the quality of the runoff at the Site by installing new collection roof drains and sediment and oil grease traps in the parking garage and delivery area drains. These traps will be periodically cleaned to maintain capture ability.

4.2.6 Noise

An evaluation of the operational noise effects was conducted for the proposed Project. The results of the noise evaluation indicate that operation of the Project will comply with the noise requirements of the City of Boston Noise Ordinance and DEP Noise Policy at all receiving properties.

The existing noise levels in the area were established by measurements. Future noise levels from Project related sources were estimated at the Site and at nearby receiving properties. Although the Project is in the early stages of design, the major noise producing items have been identified. Equipment noise levels were estimated based on vendor data and on measurements at the louver face of a similar mechanical room penthouse. Noise modeling was conducted to estimate the facility noise levels at both nearby institutional and residential land uses.

4.2.7 Geotechnical

A geotechnical engineering survey conducted at the Site indicates that the subsurface consists of fill overlying very dense marine clay. The dense or stiff marine clay present at the Site will reduce the potential for settlement of adjacent buildings.

During the excavation phase of construction, dewatering will be required. Existing pervious marine sands and clay will remain below and surrounding the New Building. Therefore, any existing groundwater flow patterns will not be significantly affected by the below-grade portions of the New Building. The New Building will be designed to resist hydrostatic pressure. The New Building will not include underdrains which permanently lower the groundwater table.

4.2.8 Solid and Hazardous Wastes

Based on oil and hazardous material site evaluations performed for the College by Haley & Aldrich, Inc., there is no evidence that the Site was used as a disposal site, or that there has been any on-site hazardous material spill.

Demolition debris from the Newton Building and the Garage/Office Building will be properly disposed of by a licensed contractor. Construction debris such as wood, metal, and non-contaminated steel will be recycled when possible. Prior to any demolition or construction activities, asbestos within the Newton Building and the White Building will be removed by a licensed contractor.

The College will use its existing waste management and recycling plan to dispose of additional waste generated by the Project operations.

4.2.9 Construction

The construction period for the Project is expected to last approximately two and a half years. Typical construction hours will be from 7:00 AM to 3:30 PM, Monday through Friday, although steel erection, foundation preparation, concrete pouring, and masonry work may extend to 5:30 PM on weekdays.

An evaluation of the construction noise effect was conducted for the Project. The existing daytime L_{10} levels in the area were established by measurements. Future noise levels from construction sources were estimated at the source and at a distance of 50 feet. Construction equipment noise levels were adjusted based on frequency of use and the character of the sounds produced. A combined level from all construction sources was estimated for each phase of construction. The results of the construction noise evaluation indicate that during construction, the noise requirements of the City of Boston Construction Noise Limits will be achieved.

A Construction Management Plan (CMP) will be submitted to the BTB for approval prior to the start of construction. The CMP will include specific mitigation measures and staging plans to minimize effects to the abutters, particularly to the Boston Latin School and its operation; pedestrians using Palace Road and the walkway located to the rear of the New Building; and to automobile traffic around the Site.

4.2.10 Urban Design

The New Building, the White Building, and the connecting element between the two buildings will present a new, unified composition on the Site that is compatible with its urban context. The New Building, located behind the White Building and setback from Longwood Avenue, will be unobtrusive from Longwood Avenue. The setback from the Boston Latin School property line has increased from 10 feet, as originally proposed, to 17 feet thereby improving massing and providing a greater separation from the Boston Latin School. The setback of the New Building from Palace Road has also increased from 10 feet to 15 feet. The design of the New Building addresses other BRA issues including: 1) major landscaping and parking improvements which will be made to the Longwood area frontage; 2) the configuration of the cornice line, which minimizes the apparent height and better integrates the architecture of the New Building with the White Building; and 3) selection of proposed building materials (brick and precast concrete) will reinforce the masonry character of the district and has been carefully coordinated with the brick and limestone of the White Building.

4.2.11 Historic Resources

The Project is consistent with existing historical and cultural resources in the vicinity of the Site. A review of MHC files disclosed no known archaeological sites within a one-half mile radius of the College. The Isabella Stewart Gardner Museum is the only building listed in the National Register of Historic Places within the immediate vicinity. The Project will increase shading on a limited portion of one facade of the Museum during winter afternoons, a time of the year when shadows are longest. Given the space required for the programmatic objectives of the Project and its location, some shading effects cannot be avoided.

4.2.12 Infrastructure

The Project will generate an average sewage discharge of 39,575 gallons per day (gpd) of sanitary wastewater which is less than the amount identified in the DPIR/DEIR due to slight reduction in gross square feet of research space. This wastewater will be discharged to an existing BWSC sewer under Palace Road. Analysis of sewers along the sewer route indicate sufficient available capacity. An additional peak discharge of 27 gallons per minute (gpm) will be generated during periods of cooling tower blowdown. These periods are expected to last for 2 to 3 minutes, approximately once per week.

A sewer discharge permit will be submitted to DEP and MWRA prior to the initiation of wastewater discharge.

The Project will require approximately 54,532 gpd of water on average when the cooling tower is in operation, and 43,532 gpd when the tower is not in operation. Available hydrant test data indicates that there is sufficient available capacity in area water mains to meet Development needs.

4.2.13 Housing Analysis

The Project described in this Master Plan will have a positive effect on the availability of affordable housing in the Community. An important component of the Master Plan includes the construction of dormitory space to accommodate 175 to 180 students on the College's Campus. In addition to providing much needed dormitory space, thereby allowing for others to utilize available and affordable housing, the College will make a Linkage contribution in connection with the construction of the Project, which will be used to improve and increase the availability of affordable housing within the City of Boston.

4.3 Summary Of Mitigation Measures

The following summarizes the proposed mitigation measures to anticipated environmental effects from the Project described in this Master Plan Development. (A full discussion of these measures is contained in the DPIR/DEIR and FPIR/FEIR for the Project.)

4.3.1 Wind

The Project will include additional landscaping on the northeast side of the Site along the Boston Latin School. The landscaping will mitigate pedestrian level winds at the New Building's corners from the northwest and northeast wind conditions. Additional landscaping along the walkway between Longwood Avenue and the Research Facility portion of the New Building will further mitigate the effects of northwest winds, while landscaping near the east corner of the New Building at Palace Road will provide a wind break. The setback of the New Building entrance to the Research Facility will also buffer this area from these winds.

4.3.2 Shadow

Eliminating the gap in the New Building from that originally proposed, allows a shift in the building footprint away from the western property line of the Site adjacent to the LMRC. This reduces the effects of new shadows on the Boston Latin School walkway and south facade.

4.3.3 Daylight

The Project design limits daylight obstruction to the extent possible due to the location of the New Building and the programmatic and space requirements of the College.

4.3.4 Air Quality

The design of the ventilation systems for the New Building will include methods to recover or decompose constituents prior to exhaustion. In addition, better dilution is expected for the trace amounts vented, as the exhaust will occur from above the New Building's roof level.

The boiler plant required for the New Building will include Best Available Control Technology for all emissions, as defined by the Massachusetts DEP. The use of natural gas to fire the plant will virtually eliminate emissions of sulfur dioxide and minimize particulate emissions to very low levels. For NO_x, system burners will be designed to reduce flame temperature and thereby reduce these emissions. Further, the project will likely be required by DEP to include induced flue gas recirculation (FGR). FGR is a control measure which returns hot boiler exhaust to the burner. The process also allows for a cooler flame which in turn reduces NO_x emissions.

4.3.5 Water Quality

Site runoff quality will be improved by the addition of new collection and roof drains. Sediment and oil and grease traps will be placed in the parking garage and delivery area drains to reduce contaminant loadings to the Muddy River. These traps will be periodically cleaned to maintain capture ability. In addition, litter sweeps will be made as needed on pedestrian walkways to control the amount of debris that is entrained in stormwater runoff.

4.3.6 Noise

Operational noise levels will meet requirements of the City of Boston Noise Ordinance and DEP Noise Policy at all receiving properties. This will be achieved by significant attention to noise control in both the initial and later stages of design. The noise producing equipment required for the New Building will be placed on the roof in the mechanical penthouse, taking maximum advantage of distance and directivity to nearby properties. In addition, the roof line will be constructed in a way to make a natural barrier to noise from the rooftop cooling towers.

Additional noise mitigation features will be selected by the final designers to meet the requirements of the Boston Noise Ordinance at the property line nearest the penthouse louvered openings.

4.3.7 Geotechnical

Underpinning of LMRC is required during construction to mitigate geotechnical impacts. This same procedure is not required at the Boston Latin School because of its distance from the construction.

During the excavation phases of construction, dewatering will be required. Exiting pervious marine sands will remain below and surrounding the New Building. Therefore, any existing groundwater flow patterns will not be significantly affected by the below-grade portions of the New Building. The New Building will be designed to resist hydrostatic pressure. The New Building will not include underdrains which permanently lower the groundwater table..

4.3.8 Solid and Hazardous Waste

The College will use its existing waste management plan to dispose of operational waste generated by the Project. Chemical waste generated by the College and Research Facility will be stored in properly vented and insulated cabinets and picked up by a licensed contractor. The College currently recycles white paper and cardboard. Expansion of the recycling program is being considered to include additional materials associated with the cafeteria and laboratory space.

4.3.9 Construction

A Construction Management Plan (CMP) will be submitted to the City for approval which will include specific mitigation measures and staging plans to minimize effects to abutters, pedestrians and automobile traffic around the Site.

In addition to the Transportation Access Plan Agreement with BTB, the College will also submit the CMP to BTB, and enter into a Construction Management Plan Agreement. These documents will assess and offer appropriate mitigation for the construction related impacts resulting from the Project. The Construction Management Plan and Agreement will include specifications on construction staging, erosion and dust control, trucking routing, and construction worker commuting and parking.

4.3.10 Urban Design

The Project has been designed so as to mitigate effects on abutters. The increased setback at the northern property line of the Site allows a softer treatment of the space between the New Building and the Boston Latin School, with landscaped plantings rather than a hard surface. Pursuant to requirements of the Project's approval by the Boston Civic Design Commission on May 4, 1993, additional landscaping will be provided along Longwood Avenue in front of the White Building and there will be a reduction in automobile capacity in the two existing parking areas.

Because the Project is consistent with the height, scale, massing and uses of buildings within the general vicinity of the Site, no further mitigation is required.

4.3.11 Historic Resources

The Project is in context with the noted cultural and historical nature of the Site. Design elements of the New Building are also in context with other buildings in the vicinity.

4.3.12 Infrastructure

In order to minimize domestic water use and sanitary wastewater discharge, the College will meet all applicable code requirements for the installation of low flow fixtures. In order to minimize process water use, cooling tower use will be restricted to periods when the outside ambient temperature exceeds 55°F. In addition, tower draft fans will not be used during moderate temperature periods to further reduce evaporative losses from the cooling tower operation.



5. COMMUNITY BENEFITS AND SERVICES

5. COMMUNITY BENEFITS AND SERVICES

5.1 Development Impact Project Contribution

The Project constitutes a Development Impact Project as that term is defined in accordance with Sections 26A-26B of the Zoning Code. The College's Development Impact Project Plan for this Project, dated May 27, 1993 as approved by the BRA, is incorporated herein by reference. The College will provide linkage contributions to the City of Boston as appropriate. These linkage contributions will aid in the development of affordable housing and job training. These linkage contributions will be made in accordance with the terms of an agreement entered into between the BRA and the College.

5.2 Anticipated Employment Levels

5.2.1 Construction Jobs

Temporary employment opportunities will be provided during the construction phases of the Project. It is estimated that at the peak construction period, 150 construction workers will be employed. The breakdown of the estimated construction workers for each construction period is as follows:

| Construction Period | Construction Workers |
|----------------------------|-----------------------------|
| July 1993 | 20 |
| December 1993 | 50 |
| September 1994 | 100 |
| December 1994 | 150 |
| September 1995 | 20 |

5.2.2 Permanent Jobs

The completion of the Project will provide additional permanent employment opportunities. The College plans to increase its faculty and staff by 10 to 20 positions over the next five years.

5.3 Other Public Benefits

The College has entered into discussions with abutters, residents and neighborhood groups regarding ways in which the College can better communicate and participate in a more positive way with the neighborhood. The College has had a long and successful relationship with the Boston School System, the City of Boston, Mission Hill and with communities outside of Boston. These activities are discussed below.

5.3.1 *Mission Hill Rental Housing Data-base*

Many Mission Hill property owners have requested that the College provide a means of getting local rental housing information to students. Therefore, the College is prepared to establish a Mission Hill Rental Housing Data-base. The College will solicit rental housing information from Mission Hill property owners (address, owner, size of unit, monthly rent, significant features, etc.), create a data-base, and make the data-base available to all College students. The program is designed to provide students with information about housing accommodations within walking distance, and property owners with direct marketing assistance to students from the College. The program and data-base can be expanded to other Boston neighborhoods as necessary; however, the Mission Hill neighborhood is the primary target area.

5.3.2 *Community Scholarship Nominating Committee*

The College has committed to establishing a Community Scholarship Nominating Committee which will work with the College to identify Mission Hill residents who may take advantage of the College's many scholarship programs. The College will work with Committee members to inform local high school students of scholarships, grants, financial aid and other programs that are available in order to attend the College. The Committee will be made up of community representative, including but not limited to students, parents, local school officials, neighborhood organizations and the College. The Nominating Committee will give preference to Mission Hill residents, students of Mission Hill area schools and other City of Boston residents.

5.3.3 *Student Mentor Program*

The College has committed to expand its current College - local school matching program to include a Mission Hill school. The selection of a school match will be made jointly by representatives of Mission Hill; the College and school officials.

5.3.4 Payment In-Lieu of Taxes (PILOT)

The College has begun discussions within agencies of the City of Boston to establish a PILOT program for the College.

5.3.5 The College and the Boston Public Schools Collaboration

As a charter member of the Boston Higher Education Partnership, the College has been involved in efforts to assist the Boston Public Schools by improving the educational climate and offerings in the city during the past eighteen years. In supplementing funds provided by the Commonwealth under its Chapter 636 legislation, the College has contributed the equivalent of more than \$275,000 in administrative and instructional support during the last eight years alone.

From 1975 to 1988, the College was paired with the Charles E. Mackey Middle School, located at 90 Warren Avenue in Boston's South End. As the mission of the Mackey School evolved over the years, from a magnet school in the arts and humanities to a school whose emphasis was on two-way bilingual education, the College's administration, faculty, and students helped to design and implement such programs as:

- A state-of-the-art language laboratory;
- Curriculum support for science and English teachers;
- An annual school-wide science fair;
- A basic skills learning center;
- A drug abuse education program;
- Elective courses in the humanities;
- Multi-cultural arts programming; and
- Technical assistance to Mackey's faculty and administration.

In 1980, an independent evaluator called the pairing "exceptionally successful" because the College "has not only supported but actively helped the school and parents define Mackey's magnet theme." In a report to the Boston School Department, the Mackey administration described the College as "an excellent resource" which "has provided us with continuity through many administrative and staffing changes."

In 1988, the Mackey Middle School was closed by the Boston School Committee and the College was re-paired with the Umana Barnes Middle School on Border Street in East Boston. The new program with the Umana Barnes Middle School concentrations on science and laboratory tutoring.

Students from the College visit the Barnes School approximately three days per week during the school year to assist Boston teachers with laboratory preparation and to provide tutoring for the 6th, 7th and 8th-grade students.

The College employs a part-time Coordinator to supervise the tutors and to assist the Barnes science faculty with curriculum planning. Other aspects of this unique partnership include:

- A Laboratory Manual prepared by the College for Barnes students;
- Tutoring in both Spanish and English;
- A Career Day visit to the College for 8th-grade students; and
- Field trips to the Science Museum and New England Aquarium's Harbor Exploration Program.

In the fall of 1992, the College began an additional partnership with the Fenway Middle College High School in Charlestown. In collaboration with the Melville Corporation, which operates CVS pharmacies, the College provides curriculum and organizational support for an innovative 4-year college preparatory program designed to groom minority students for careers in pharmacy and the health professions. A monitoring program, career awareness workshops, and special courses are being developed by faculty from the College and the Boston Public Schools, working with practicing professionals in health-related fields.

The College's Nursing program provides direct services to health practitioners in the following public schools and neighborhood health centers:

- Brighton High School
- Boston Latin School
- Edwards Middle School in Charlestown
- Barnes Middle School in East Boston
- Bunker Hill Community Health Center in Charlestown
- Dimock Health Center in Roxbury
- Rosie's Place in Boston

Registered Nurses, who are enrolled in the Bachelor in Science for Nursing (B.S.N.) program at the College, assist in these settings as part of their required clinical experience.

The College is an active participant in many other community, educational and civic projects and programs throughout the Greater Boston Area.

5.3.6 Mission Hill and Boston Programs

Among the students, faculty and staff of the College, many committees and individuals actively participate in ongoing community, educational and civic projects and programs. The College encourages its students and members to be involved in community service as a means of appropriate preparation for a responsible career serving the public. The College attempts to reach out to the local Mission Hill community as its nearest neighbor and has established several successful relationships with local programs and projects. A sampling of the programs and projects in which the College participates in the Mission Hill and Boston area are as follows:

- **Organizational Support** - The College provides a room for the Adult ADD group of Greater Boston to meet in as part of Boston Against Drugs. The College has participated in the Boston Against Drugs/Mission Hill Day at the Tobin School. Members of the Phi Delta Chi fraternity of the College contributed their time and effort in providing an information booth, blood pressure screening, and drug information to participants. The College's Public Relations office also participated by providing refreshments and nutritional information.
- **Day Care** - The College is sponsoring and funding day care for one child at the Ellen Jackson Children's Center for one year (1992). The day care center, located on Annunciation Road in Mission Hill is a pre-school providing year round care for children ages 2 to 6.
- **Food Project Committee** - The Food Project Committee is a group of representatives from each of the institutions and schools in the LMA who raise funds for area food pantries and community groups. The Food Committee conducts two food drives on campus annually, one in the fall and one in the spring. The food collected is

donated to a Mission Hill food pantry. Additionally, the Food Project Committee coordinated a pilot project with the Tobin School and Boston Urban Gardeners during the summer of 1992 whereby the program employed youths from the Mission Hill area, taught them gardening skills and raised vegetables for the ABCD Food Pantry.

- **Furniture and Computer Donations** - From time to time, the College's Public Relations Office coordinates donations of computers and surplus furniture to charitable organizations. Recent donations include library furniture donated to the Tobin Elementary School in Mission Hill.
- **Mission Hill Summer Program** - In conjunction with the Phillips Brooks House Association Inc., the College gives financial support to the Mission Hill Summer Program targeted to the educational and multi-cultural day camp that is made available to children of the Mission Main Housing Project.
- **Project ProTech** - The College provides meeting space and program sponsorship to Project ProTech. Project ProTech is a four year, school-to-work transition program which prepares students from Boston, Brighton and English High Schools for careers in health care. Currently 50 high school seniors and 70 juniors are enrolled in the program.
- **Recycling** - The College organized a recycling committee in 1991 and began recycling paper, envelopes, etc. during the last academic year. The residence hall recycles cans and bottles in conjunction with Boston CAN, a federally funded program to assist homeless individuals.

5.3.7 Other Community and Educational Programs and Projects

In addition to Boston based projects, the College and its personnel participate in many programs outside of the City, including:

- **Media Interviews** - On a regular basis, members of the College's faculty provide expert opinions and participate in interviews conducted by the print and broadcast media. These interviews are on a wide range of health care/drug topics and provide unbiased, valuable health care information to the public.

- **Medication Awareness Month** - Annually the College joins forces with several state health organizations to observe Medication Awareness Month. This past year's activity included a kickoff, brown bag event held at the Somerville Young at Heart Senior Center where the College students discussed medication concerns with the elderly.
- **National Scleroderma Foundation** - College faculty author a question and answer column in the newsletter published by the national Scleroderma Foundation.
- **Project Eldermed** - Ambulatory Externship Program students visit senior centers and elderly housing complexes in the Boston area and across the state to conduct brown bag programs, discuss prescription medication, and distribute information packets which provide written material on the proper use of prescription drugs. Project Eldermed is a joint effort between the College, and the Department of Public Health, Division of Elderly Health.
- **Project Excellence** - In 1992, the College awarded a full tuition, room and board scholarship. This program rewards black students in the Washington, D.C. metropolitan area who excel academically.
- **Brown Bag Programs** - The popular brown bag programs are conducted on an ongoing basis by members of the College faculty and students. This program provides an opportunity for individuals to discuss their individual prescription medicine concerns with a registered pharmacist/or student. Programs have been held at Uphams Corner, the State House and several senior centers around the state.

5.3.8 *Ongoing Community Activities*

The College has ongoing commitments to a number of community activities. These include:

- **March of Dimes Birth Defects Foundation** -The College has been recognized for its generosity and continued outreach contribution to this Foundation.
- **Massachusetts Society of Medical Research** - The College gives financial support to the Massachusetts Society for Medical Research.
- **Perkins School for the Blind** - The College has provided financial support to the Perkins School for the Blind.

- **Pine Street Inn** - as well as conducting clothing and food drives for the Pine Street Inn, sponsored by the College and its fraternities, the College has provided financial support to the shelter.
- **Police Alliance of Boston** - The College donates funds annually to this organization, comprised of members of the Boston Police Department, which provides programs to needy city children.
- **Medi-Message Drug Information Hotline** - This program is a free, "hotline" for the public, which provides information on over 100 commonly prescribed medications. The service is available 24-hours a day. This service is highly regarded in the community. Brochures have been distributed to local pharmacies, community and elderly centers, and are available to the public free of charge. This service has been featured in *Family Circle*, *Good Housekeeping*, *The Patriot Ledger*, *The Boston Globe*, WCVB-TV Channel 5, and other media outlets.
- **Scholarship Aid** - The College budgets annually for scholarship aid available to all students on a need basis. Additional funds are available for other than need based aid.

One particular scholarship, the Carol DiMaiti Stuart Scholarship provides for free tuition in any degree program offered by the College. Eligible applicants must be residents of the City of Boston and graduates of a Boston high school. Priority is given to residents of Mission Hill.

- **United Way of Massachusetts Bay** - College employees contributed during the last three years to funding drives conducted by the United Way.
- **Community Corps** - Discussions between the College and the community identified a need to coordinate the efforts of College committees, organizations, and fraternities for community participation with needs of the community. The College has committed to organize and coordinate a year-round program that will match student participation with the needs of community based non-profit and/or neighborhood groups.
- **Purchasing Coordinator** - The College has committed to assign a coordinator to advertise, solicit, and inform community based vendors and suppliers for the purchases of goods and services by the College.



APPENDIX



APPENDIX A

Technical Appendix to the Institutional Master Plan, Preliminary
Adequacy Determination for Massachusetts College of Pharmacy
Research/Dormitory/College Facility Project, May 1993

**BOSTON REDEVELOPMENT AUTHORITY
COMMENTS ON
MASSACHUSETTS COLLEGE OF PHARMACY
AND ALLIED HEALTH SCIENCES INSTITUTIONAL MASTER PLAN**

In its review of the draft Institutional Master Plan, the BRA has identified certain components which are insufficient and which the proponent must modify, and additional information which the BRA requires in order to issue an Institutional Master Plan Adequacy Determination. The following is a description of the sufficiency of the materials submitted in the draft Institutional Master Plan, and the additional materials which the Proponent must include in the Institutional Master Plan prior to the issuance of an Adequacy Determination.

I. Mission Statement

The information provided is sufficient to satisfy the scoping requirements.

II. Growth and Change 1982-1992

The information provided is sufficient to satisfy the scoping requirements.

III. Facility Needs

The information provided is sufficient to satisfy the scoping requirements with the exception of the section entitled "3.2 District Zoning Concept."

The revised Institutional Master Plan should summarize the provisions of the zoning for the Massachusetts College of Pharmacy Institutional District that will be presented to the Zoning Commission for its consideration.

IV. Analysis of Master Plan: Effects and Mitigation

The analysis provided is sufficient to satisfy the scoping requirements of an Institutional Master Plan with the exception of those components identified in the Technical Appendix to the Article 31 Preliminary Adequacy Determination as needing additional information or modification. These components include Transportation, Environmental, Urban Design, and Infrastructure.

As the Research/Dormitory/College Facilities Project (the "Proposed Project") described in the Institutional Master Plan represents the entire future build-out of the College, it is important that the mitigation program described in the revised Institutional Master Plan identify for the Transportation, Environmental, Urban Design and Infrastructure sections the changes the BRA also has requested for these issues in the FPIR under Article 31. To do this, the Institutional Master

Plan should incorporate by reference, as an appendix, the FPIR/EIR documentation.

V. Community Benefits and Services

As the Institutional Master Plan will serve as one of the documents to monitor progress in meeting community benefits and services, it should be up-dated to identify the community benefits which the College intends to pursue. Specific commitments can be detailed in the Cooperation Agreement.

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